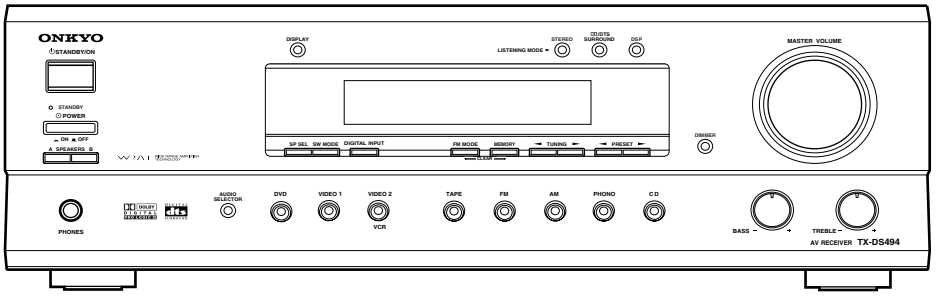
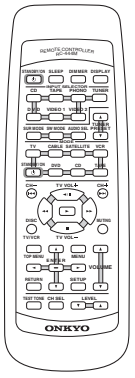
Ref. No.3676
052001

ONKYO® SERVICE MANUAL

AV RECEIVER

TX-DS494/HT-R490





TX-DS494
Black,Silver and Golden model

BMDD	120V AC, 60Hz
BMPP,SMPP,BMPA,GMPA	230-240V AC, 50Hz
BMWT,BMWR,GMWT,GMWR	120/220-230V AC, 50/60Hz
GMGT	220-230V AC 50/60Hz

HT-R490
Black model
120V AC,60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SEPECIFICATIONS

AMPLIFIER SECTION

Continuous Average Power output (FTC)
- All channels: **55 watts per channel min. RMS at 8 ohms, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.** **70 watts min. RMS at 6 ohms, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.**

Continuous Power output (DIN): 75 watts 5 at 6 ohms
Maximum Power output (EIAJ): 100 watts 5 at 6 ohms
Total Harmonic Distortion: 0.08% at rated power (Front)
IM Distortion: 0.08% at rated power (Front)
Damping Factor: 60 at 8 ohms (Front)
Input Sensitivity and Impedance
- ✻PHONO: 2.5 mV, 50 kohms
- LINE (CD, TAPE, DVD, VIDEO 1, 2): 200 mV, 50 kohms
- MULTICHANNEL INPUT
  - (FRONT L/R, SURROUND L/R, CENTER): 200 mV, 50 kohms
  - (SUBWOOFER): 36 mV, 50 kohms
- DIGITAL 2 (COAXIAL): 0.5 Vp-p, 75 ohms

Output Level and Impedance
- Rec out (TAPE, VIDEO 2): 200 mV, 2.2 kohms
- Pre out (SUBWOOFER): 1 V, 2.2 kohms

✻Phono Overload: 110 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response: 20 Hz to 100 kHz, +1/Ð3 dB
RIAA Deviation: 20 Hz to 20 kHz, ±0.8 dB
Tone Control
- Bass: ±10 dB at 50 Hz
- Treble: ±10 dB at 10 kHz

Signal-to-Noise Ratio
- Phone: 80 dB (IHF-A, 5 mV input)
- CD/Tape: 100 dB (IHF-A)

VIDEO SECTION

Input Sensitivity and Impedance
- VIDEO (DVD, VIDEO 1, 2): 1 Vp-p, 75 ohms
- S VIDEO (DVD, VIDEO 1, ✻2): 1 Vp-p, 75 ohms (Y) 0.28 Vp-p, 75 ohms (C)

Output Level and Impedance
- VIDEO (VIDEO 2, MONITOR): 1 Vp-p, 75 ohms
- S VIDEO (MONITOR): 1 Vp-p, 75 ohms (Y) 0.28 Vp-p, 75 ohms (C)

TUNER SECTION

FM
Tuning Range: 87.5-108.0 MHz (50 kHz steps)
Usable Sensitivity
- Mono: 11.2 dBf, 1.0 µV (75 ohms)
- Stereo: 17.2 dBf, 2.0 µV (75 ohms)

50 dB Quieting Sensitivity
- Mono: 17.2 dBf, 2.0 µV (75 ohms)
- Stereo: 37.2 dBf, 2.0 µV (75 ohms)

Capture Ratio: 2.0 dB
Image Rejection Ratio
- North American models: 40 dB
- Other models: 85 dB

IF Rejection Ratio: 90 dB
Signal-to-Noise Ratio
- Mono: 76 dB
- Stereo: 70 dB

Alternate Channel Attenuation: 55 dB
Selectivity: 50 dB (DIN)
AM Suppression Ratio: 50 dB
Total Harmonic Distortion
- Mono: 0.2%
- Stereo: 0.3%

Frequency Response: 30 Hz-15 kHz, ±1.0 dB
Stereo Separation: 45 dB at 1 kHz, 30 dB at 100 Hz-10 kHz

AM
Tuning Range
- North American models: 530-1,710 kHz (10 kHz steps)
- European & Australian models: 522-1,611 kHz (9 kHz steps)
- Worldwide models: 531-1,602 kHz (9 kHz steps), 530-1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 µV
Image Rejection Ratio: 40 dB
IF Rejection Ratio: 40 dB
Signal-to-Noise Ratio: 40 dB
Total Harmonic Distortion: 0.7%

GENERAL

Power Supply: AC 120 V, 60 Hz; AC 230-240 V, 50 Hz; AC 220-230 V and 120 V switchable, 50/60 Hz
Power Consumption: 3.4 A; 260 W
Dimensions (W × H × D): 435 × 150 × 339 mm; 17-1/8" 5-7/8" 13-3/8"
Weight
- North American models: 9.7 kg, 21.4 lbs.
- European & Australian models: 10.3 kg, 22.7 lbs.
- Worldwide models: 10.9 kg, 24.0 lbs.

REMOTE CONTROL

Transmitter: Infrared
Signal range: Approx. 5 meters, 16 ft.
Power supply: Two "AA" batteries (1.5 V × 2)

Specifications and features are subject to change without notice.
Power supply and voltage vary depending on the area in which the unit is purchased.

[NOTES]

✻ : TX-DS494 only

SERVICE PROCEDURES

1. Replacing the fuses

This symbol located near the fuse indicates that the fuse used is show operating type, For continued protection against fire hazard, replace with same type fuse , For fuse rating, refer to the marking adjest to the symbol.

Ce symbole indique que le fusible utilise est e lent. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce demier est indique la qu le present symbol est apposre.

REF. NO.	PART NO.	DESCRIPTION
F911	252166	⚠ 6.3A-UL/T-237, Fuse <DD,WT,WR,490>
F922	252077 or	⚠ 4A-SE-EAK or
	252243	⚠ 4A-SE-TL250V, Fuse <PP,WT,WR,GT,PA>
F923	252075	⚠ 2.5A-SE-EAK, Fuse <PP>

[NOTE] <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<490> : HT-R490 only

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical souce results in accident which causes the specified operations and functions to operate abnormally.
To perform a result, please follow the procedure below.

1. Press and the hold down the VIDEO 1 button , then press the SPEAKER A button when the nuit is Power ON.
2. After " CLEAR " is displayed, the preset memory and each mode stored in the memory, are initialized and will return to the factory settings.

3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem perform the following safety check before releasing the set to the customer
Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.
Specifications: More than 10Mohm at 500V

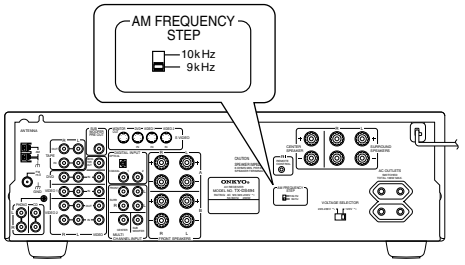
4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is un-plugged. The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This pe-riod is shorter when the unit is exposed to a highly humid cli-mate.

5.Setting the AM tuning step frequency

(World wide models only)

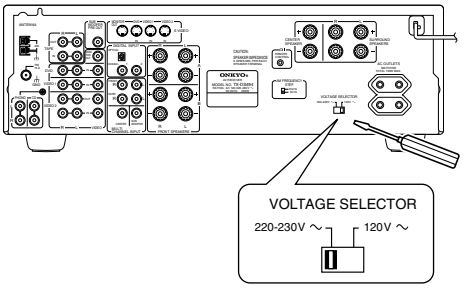
Worldwide models are equipped with a switch that controls the AM band tuning step. Please set this switch to match the AM band tuning step frequency in your area.



6.Setting the voltage selector

(Worldwide models only)

World models are equipped with a voltage selector conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.
Determine the proper voltage for your area: 230V or 120V.
If the preset voltage is not correct for your area, insert a screwdriver into the groove in the switch. Slide the switch all the way to the right (120V) or to the left(220V-230V), whichever is appropriate.



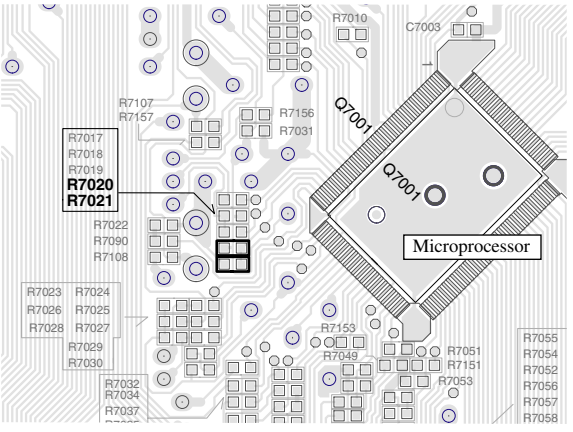
7. Changing the AM band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R7020	Open	10k
R7021	10kohm	8.2kohm

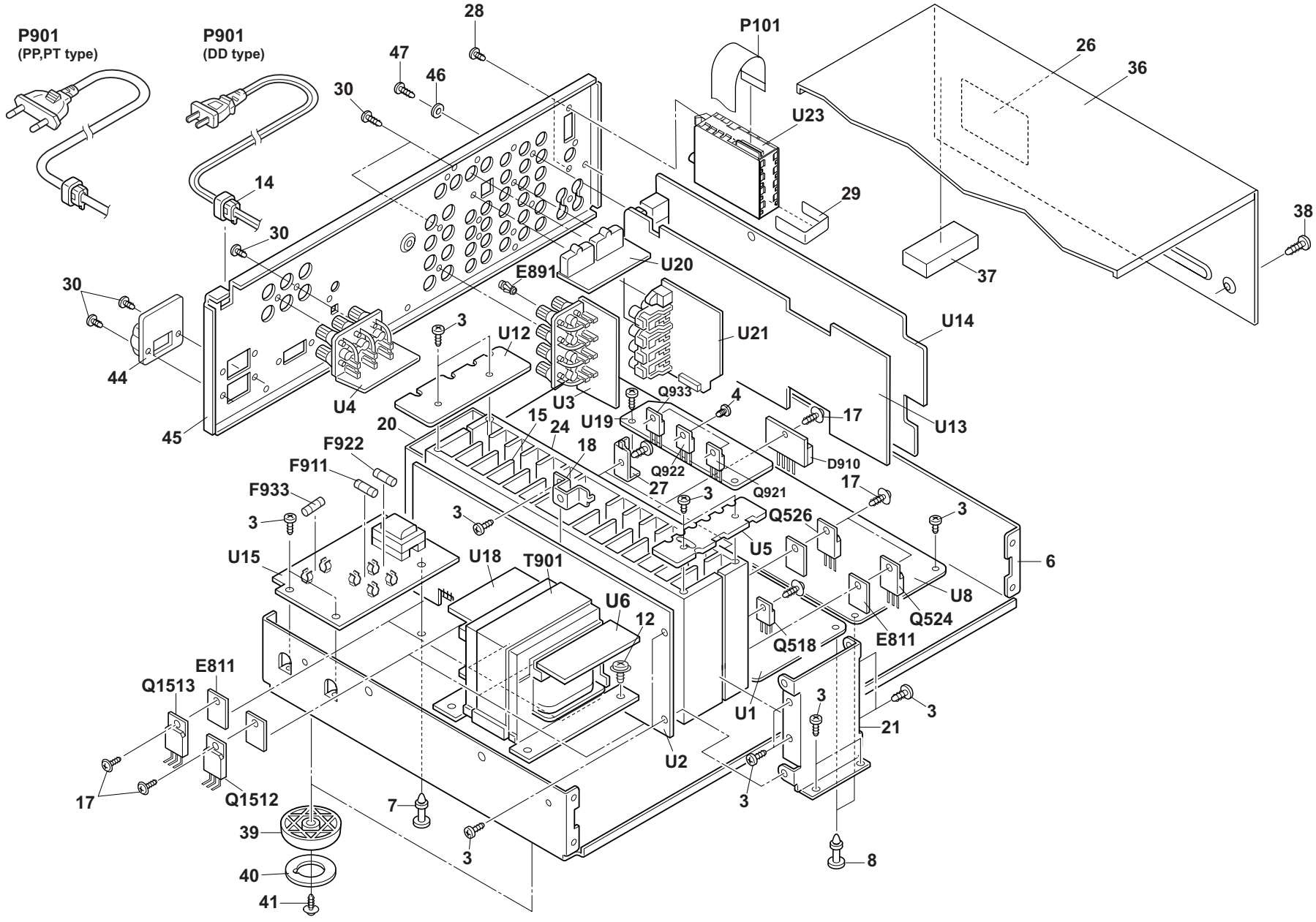
NADIS-7043 (Display circuit PC board)

From soldering side

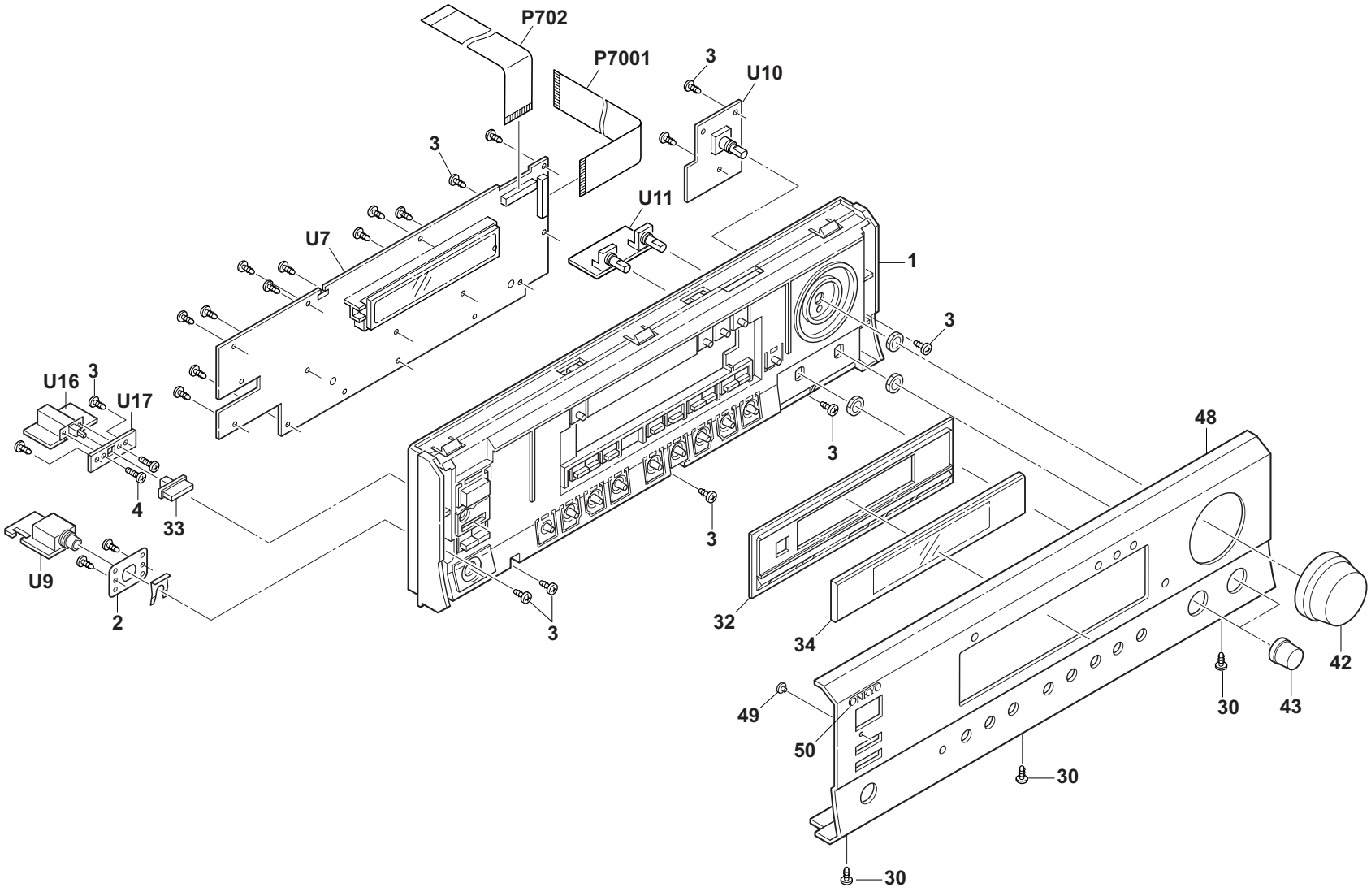


EXPLODED VIEW-1

MAIN PART



EXPLODED VIEW-2
FRONT PART



EXPLODED VIEW PARTS LIST-1

REF. NO.	PART NO.		DESCRIPTION
1	27111200		Front bracket <B>
	27111201		Front bracket <S>
	27111202		Front bracket <G>
2	27141787		Retainer, HP
3	838130088		3TTB+8B, Self tapping screw
4	82143010		3P+10FN(BC), Self tapping screw
6	27100368B		Chassis
7	27190266		KGLS-12RF, Holder
8	27190428A		KGLS-10RF, Holder
9	27190813		KGPS-10RF, Holder
12	830440089		4TTC+8C(BC), Self tapping screw
14	27300750	⚠	Bushing, cord #2271 <DD,PP,WR,WT, PA,GT>
15	27160435		Heat sink L
17	801433		3SMS8W.SW+14B(BC), Special screw
18	27141681		Retainer, PWB
20	27141735		Retainer, Rear
21	27141734		Retainer, Front
24	27160436A		Heat sink S
25	82143010		3P+10FN(BC) Pan head screw
26	29362772		Label, cover
27	27141729		Retainer, S
28	838430068		3TTB+6B(BC), Self tapping screw
29	29110083		Tape, Cross-16U
32	27215357		Decorative frame <B>
	27215359		Decorative frame <S>
	27215358		Decorative frame <G>
33	28325497A		Knob, power <B>
	28325547A		Knob, power <S>
	28325499A		Knob, power <G>
34	28191911		Clear plate <B>
	28191912		Clear plate <S,G>
36	28184663-1		Top cover <B>
	28184666		Top cover <S>
	28184682		Top cover <G>
37	28141408		Cushion
38	838430088		3TTB+8B(BC), Self tapping screw <B>
	838930088		3TTB+8B(UN), Self tapping screw <S, G>
39	27175319A		Leg
40	28141332		Cushion, leg
41	831430088		3TTW+8B(BC), Self tapping screw
42	28325641		Knob, Volume <B>
	28325642		Knob, Volume <S>
	28325643		Knob, Volume <G>
43	28325405		Knob, tone <B>
	28325474		Knob, tone <S>
	28325407		Knob, tone <G>
44	27191130		Holder, outlet <WR>

REF. NO.	PART NO.		DESCRIPTION
45	27122810		Rear panel <DD>
	27122811		Rear panel <PP>
	27122813		Rear panel <WT>
	27122814		Rear panel <WR>
	27122815		Rear panel <PA>
	27122812		Rear panel <GT>
	27122824A		Rear panel <490>
46	87643010		W3*10F(BC), Flat washer
47	838930088		3TTB+8B(UN), Self tapping screw
48	27212285		Front panel <B> <DD, WT, WR, PA>
	27212286		Front panel <B> <PP>
	27212287		Front panel <S> <PP>
	27212288		Front panel <G> <PA, WR, WT, GT>
	27212292		Front panel <490>
49	28198778		Facet
50	28135244		Badge <B>
	28135245		Badge <S,G>
D910	22380038 or		RBV602 or
	22380274		RS603M, Diode
E811	223024		Isolated sheet, AC238
E891	880048		P-3055B-8L, Plastic rivet
F911	252166	⚠	6.3A-UL/T-237, Fuse <DD,WT,WR,490>
F922	252077 or	⚠	4A-SE-EAK or
	252243	⚠	4A-SE-TL250V, Fuse <PP,WT,WR,GT,PA>
F923	252075	⚠	2.5A-SE-EAK, Fuse <PP>
P101	2047151512		NCFC7-151512, Flexible flat cable
P7001	2047252012		NCFC7-252012, Flexible flat cable
P702	2047202022		NCFC7-202022, Flexible flat cable

[NOTE]

<DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<494> : TX-DS494 only
<490> : HT-R490 only
<B> : Black model only
<S> : Silver model only
<G> : Golden model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW PARTS LIST-2

REF. NO.	PART NO.		DESCRIPTION
P901	253279HIT	⚠	AS-UC-2#18 or
	253280VOL	⚠	AS-UC-2#18 <DD>
	253306VOL or	⚠	AS CEE-2 or
	253193HIT	⚠	AS-CEE <PP, GT>
	253197HIT or	⚠	AS-SAA or
	253307VOL	⚠	AS-SAA <PA>
	253233KAW or	⚠	AS-CEE-2 or
	253306VOL	⚠	AS-CEE-2 <WT>
	253267KAW,	⚠	AS-CCEE,
	253285HIT or	⚠	AS-CCEE or
	253286VOL	⚠	AS-CCEE <WR>
Q523, Q524 ,	2202253 or	*	2SC4467-O or
Q1512	2202254 or	*	2SC4467-Y or
Q623, Q624	2202256 or	*	2SC4467-P or
	2203042 or	*	2SC5197-R or
	2203043 or	*	2SC5197-O or
	2203502 or	*	KTD718-R or
	2203503	*	KTD718-O, Transistor
Q525, Q526 ,	2202243 or	*	2SA1694-O or
Q1513	2202244 or	*	2SA1694-Y or
Q625, Q626	2202246 or	*	2SA1694-P or
	2203032 or	*	2SA1940-R or
	2203033 or	*	2SA1940-O or
	2203492 or	*	KTB688-R or
	2203493	*	KTB688-O, Transistor
Q517, Q518	2212654 or	*	2SC3421-Y or
	2212653	*	2SC3421-O, Transistor
Q921	222780125		78M12HF, IC
Q922	222790125		79M12HF, IC
Q933	222780055		78M05HF, IC
T901	2301438	⚠	NPT-1384D, Power transformer <DD, 490>
	2301440	⚠	NPT-1384P, Power transformer <PP, PA>
	2301441	⚠	NPT-1384DG, Power transformer <WT, WR, GT>

CAUTON : Replacement of the transistor of mark * ,if necessary, must be made from the same beta group(HFE) as the original type.

[NOTE]

<DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<494> : TX-DS494 only
<490> : HT-R490 only

<B> : Black model only
<S> : Silver model only
<G> : Golden model only

REF. NO.	PART NO.	DESCRIPTION
U1	1A865589-2A	NAAF-6789-2A, Front channel power amplifier PC board ass'y <DD>
	1A865589-2B	NAAF-6789-2B, Front channel power amplifier PC board ass'y <PP,PA, GT>
	1A865589-2C	NAAF-6789-2C, Front channel power amplifier PC board ass'y <490>
	1A865589-2D	NAAF-6789-2D, Front channel power amplifier PC board ass'y <WT, WR>
U2	1A865590-2A	NAAF-6790-2A, Surround channel power amplifier PC board ass'y <DD>
	1A865590-2B	NAAF-6790-2B, Surround channel power amplifier PC board ass'y <PP,PA, GT>
	1A865590-2C	NAAF-6790-2C, Surround channel power amplifier PC board ass'y <490>
	1A865590-2D	NAAF-6790-2D, Surround channel power amplifier PC board ass'y <WT, WR>
U3	1A865591-2A	NAETC-6791-2A, Front speaker terminal PC board ass'y <DD>
	1A865591-2B	NAETC-6791-2B, Front speaker terminal PC board ass'y <PP,PA, GT>
	1A865591-2C	NAETC-6791-2C, Front speaker terminal PC board ass'y <490>
	1A865591-2D	NAETC-6791-2D, Front speaker terminal PC board ass'y <WT, WR>
U4	1A865592-2A	NAETC-6792-2A, Surround speaker terminal PC board ass'y <DD>
	1A865592-2B	NAETC-6792-2B, Surround speaker terminal PC board ass'y <PP,PA, GT>
	1A865592-2C	NAETC-6792-2C, Surround speaker terminal PC board ass'y <490>
	1A865592-2D	NAETC-6792-2D, Surround speaker terminal PC board ass'y <WT, WR>
U5	1A865594-2A	NAETC-6794-2A, Holder PC board ass'y <DD>
	1A865594-2B	NAETC-6794-2B, Holder PC board ass'y <PP,PA, GT>
	1A865594-2C	NAETC-6794-2C, Holder PC board ass'y <490>
	1A865594-2D	NAETC-6794-2D, Holder PC board ass'y <WT, WR>
U6	1A865595-2A	NAETC-6795-2A, Secondary terminal PC board ass'y <DD>
	1A865595-2B	NAETC-6795-2B, Secondary terminal PC board ass'y <PP,PA, GT>
	1A865595-2C	NAETC-6795-2C, Secondary terminal PC board ass'y <490>
	1A865595-2D	NAETC-6795-2D, Secondary terminal PC board ass'y <WT, WR>
U7	1A899543-1A	NADIS-7043-1A, Display circuit PC board ass'y <DD>
	1A899543-1B	NADIS-7043-1B, Display circuit PC board ass'y <PP>
	1A899543-1C	NADIS-7043-1C, Display circuit PC board ass'y <PA,GT>
	1A899543-1D	NADIS-7043-1D, Display circuit PC board ass'y <WT,WR>
	1A899543-1F	NADIS-7043-1F, Display circuit PC board ass'y <490>
U8	1A899544-1A	NAAR-7044-1A, Main PC board ass'y <DD>
	1A899544-1B	NAAR-7044-1B, Main PC board ass'y <PP>
	1A899544-1C	NAAR-7044-1C, Main PC board ass'y <PA,GT>
	1A899544-1D	NAAR-7044-1D, Main PC board ass'y <WT,WR>
	1A899544-1F	NAAR-7044-1F, Main PC board ass'y <490>
U9	1A899545-1A	NAETC-7045-1A, Head phone jack PC board ass'y <DD>
	1A899545-1B	NAETC-7045-1B, Head phone jack PC board ass'y <PP>
	1A899545-1C	NAETC-7045-1C, Head phone jack PC board ass'y <PA,GT>
	1A899545-1D	NAETC-7045-1D, Head phone jack PC board ass'y <WT,WR>
	1A899545-1F	NAETC-7045-1F, Head phone jack PC board ass'y <490>
U10	1A899546-1A	NAETC-7046-1A, Master volume PC board ass'y <DD>
	1A899546-1B	NAETC-7046-1B, Master volume PC board ass'y <PP>
	1A899546-1C	NAETC-7046-1C, Master volume PC board ass'y <PA,GT>
	1A899546-1D	NAETC-7046-1D, Master volume PC board ass'y <WT,WR>
	1A899546-1F	NAETC-7046-1F, Master volume PC board ass'y <490>

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW PARTS LIST-3

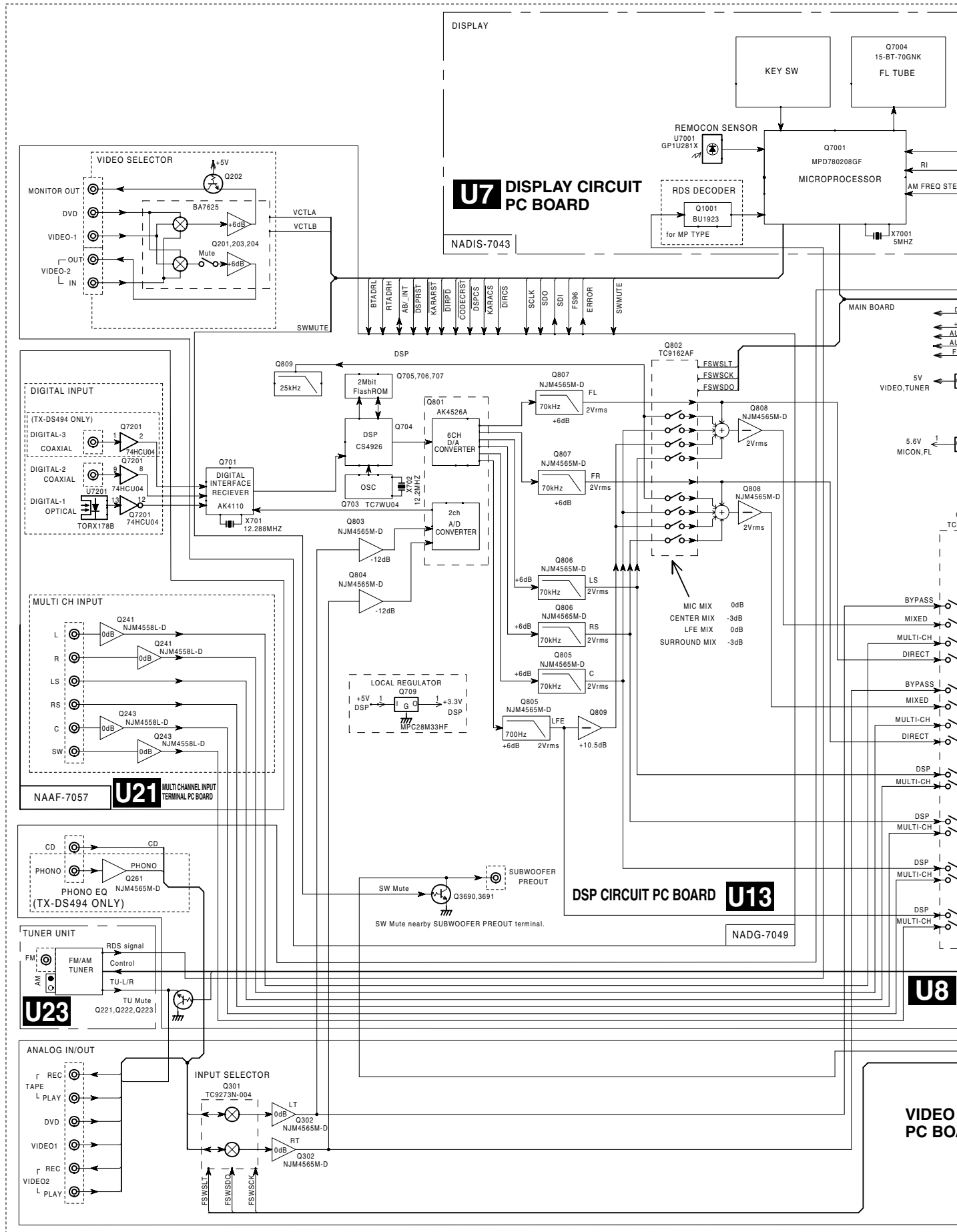
REF. NO.	PART NO.	DESCRIPTION
U11	1A899547-1A	NAETC-7047-1A, Tone control PC board ass'y <DD>
	1A899547-1B	NAETC-7047-1B, Tone control PC board ass'y <PP>
	1A899547-1C	NAETC-7047-1C, Tone control PC board ass'y <PA,GT>
	1A899547-1D	NAETC-7047-1D, Tone control PC board ass'y <WT,WR>
	1A899547-1F	NAETC-7047-1F, Tone control PC board ass'y <490>
U12	1A899548-1A	NAETC-7048-1A, Holder PC board ass'y <DD>
	1A899548-1B	NAETC-7048-1B, Holder PC board ass'y <PP>
	1A899548-1C	NAETC-7048-1C, Holder PC board ass'y <PA,GT>
	1A899548-1D	NAETC-7048-1D, Holder PC board ass'y <WT,WR>
	1A899548-1F	NAETC-7048-1F, Holder PC board ass'y <490>
U13	1A899549-1A	NADG-7049-1A, DSP circuit PC board ass'y <DD>
	1A899549-1B	NADG-7049-1B, DSP circuit PC board ass'y <PP, WR,WT, PA, GT>
	1A899549-1C	NADG-7049-1C, DSP circuit PC board ass'y <490>
U14	1A899550-1A	NAAF-7050-1A, Input terminal PC board ass'y <DD>
	1A899550-1B	NAAF-7050-1B, Input terminal PC board ass'y <PP>
	1A899550-1C	NAAF-7050-1C, Input terminal PC board ass'y <PA>
	1A899550-1D	NAAF-7050-1D, Input terminal PC board ass'y <WT>
	1A899550-1F	NAAF-7050-1F, Input terminal PC board ass'y <490>
	1A899550-1G	NAAF-7050-1G, Input terminal PC board ass'y <GT>
	1A899550-1H	NAAF-7050-1H, Input terminal PC board ass'y <WR>
U15	1A899551-1A	NAPS-7051-1A, Primary circuit PC board ass'y <DD>
	1A899551-1B	NAPS-7051-1B, Primary circuit PC board ass'y <PP>
	1A899551-1C	NAPS-7051-1C, Primary circuit PC board ass'y <PA>
	1A899551-1D	NAPS-7051-1D, Primary circuit PC board ass'y <WT>
	1A899551-1F	NAPS-7051-1F, Primary circuit PC board ass'y <490>
	1A899551-1G	NAPS-7051-1G, Primary circuit PC board ass'y <GT>
	1A899551-1H	NAPS-7051-1H, Primary circuit PC board ass'y <WR>
U16	1A899552-1A	NASW-7052-1A, Power switch PC board ass'y <DD>
	1A899552-1B	NASW-7052-1B, Power switch PC board ass'y <PP>
	1A899552-1C	NASW-7052-1C, Power switch PC board ass'y <PA>
	1A899552-1D	NASW-7052-1D, Power switch PC board ass'y <WT>
	1A899552-1F	NASW-7052-1F, Power switch PC board ass'y <490>
	1A899552-1G	NASW-7052-1G, Power switch PC board ass'y <GT>
	1A899552-1H	NASW-7052-1H, Power switch PC board ass'y <WR>
U17	25137053	NCETC-7053 PC board for Holder
U18	1A899554-1A	NAETC-7054-1A, Primary terminal PC board ass'y <DD>
	1A899554-1B	NAETC-7054-1B, Primary terminal PC board ass'y <PP>
	1A899554-1C	NAETC-7054-1C, Primary terminal PC board ass'y <PA>
	1A899554-1D	NAETC-7054-1D, Primary terminal PC board ass'y <WT>
	1A899554-1F	NAETC-7054-1F, Primary terminal PC board ass'y <490>
	1A899554-1G	NAETC-7054-1G, Primary terminal PC board ass'y <GT>
	1A899554-1H	NAETC-7054-1H, Primary terminal PC board ass'y <WR>
U19	1A899555-1A	NAPS-7055-1A, Regulator circuit PC board ass'y <DD>
	1A899555-1B	NAPS-7055-1B, Regulator circuit PC board ass'y <PP>
	1A899555-1C	NAPS-7055-1C, Regulator circuit PC board ass'y <PA>
	1A899555-1D	NAPS-7055-1D, Regulator circuit PC board ass'y <WT>
	1A899555-1F	NAPS-7055-1F, Regulator circuit PC board ass'y <490>
	1A899555-1G	NAPS-7055-1G, Regulator circuit PC board ass'y <GT>
	1A899555-1H	NAPS-7055-1H, Regulator circuit PC board ass'y <WR>

REF. NO.	PART NO.	DESCRIPTION
U20	1A899556-1A	NAETC-7056-1A, Video terminal PC board ass'y <DD>
	1A899556-1B	NAETC-7056-1B, Video terminal PC board ass'y <PP>
	1A899556-1C	NAETC-7056-1C, Video terminal PC board ass'y <PA>
	1A899556-1D	NAETC-7056-1D, Video terminal PC board ass'y <WT>
	1A899556-1F	NAETC-7056-1F, Video terminal PC board ass'y <490>
	1A899556-1G	NAETC-7056-1G, Video terminal PC board ass'y <GT>
	1A899556-1H	NAETC-7056-1H, Video terminal PC board ass'y <WR>
U21	1A899557-1A	NAAF-7057-1A, Multi channel input terminal PC board ass'y <DD>
	1A899557-1B	NAAF-7057-1B, Multi channel input terminal PC board ass'y <PP>
	1A899557-1C	NAAF-7057-1C, Multi channel input terminal PC board ass'y <PA>
	1A899557-1D	NAAF-7057-1D, Multi channel input terminal PC board ass'y <WT>
	1A899557-1F	NAAF-7057-1F, Multi channel input terminal PC board ass'y <490>
	1A899557-1G	NAAF-7057-1G, Multi channel input terminal PC board ass'y <GT>
	1A899557-1H	NAAF-7057-1H,,Multi channel input terminal PC board ass'y <WR>
U23	240134 or	TFCE1U114A or
	240138A	ENG06501QR <DD, 490>
	240135 or	TFCE1E512A or
	240139A	ENG07501Q <PP, WT, WR, PA, GT>

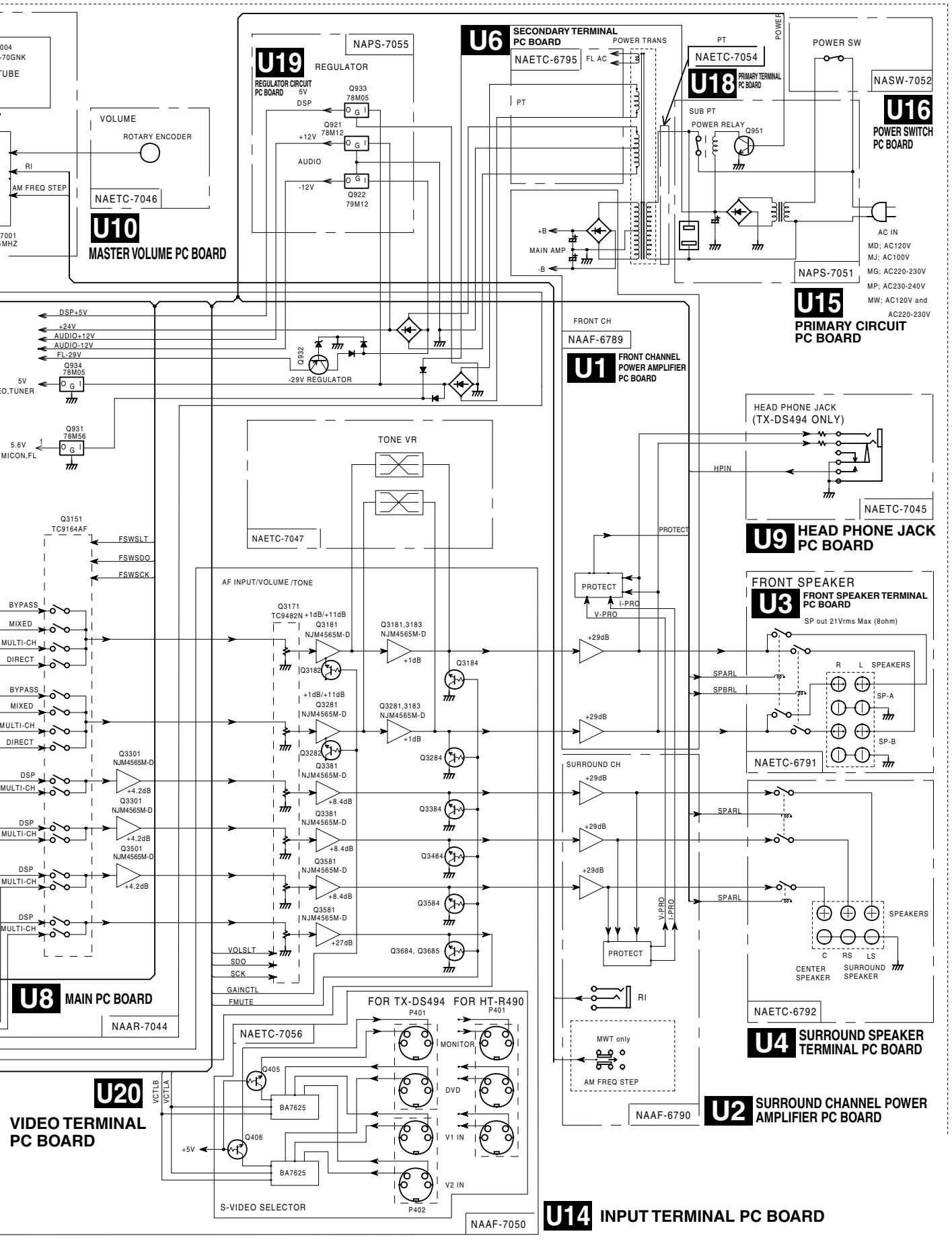
[NOTE]

<DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<494> : TX-DS494 only
<490> : HT-R490 only
<B> : Black model only
<S> : Silver model only
<G> : Golden model only

BLOCK DIAGRAM

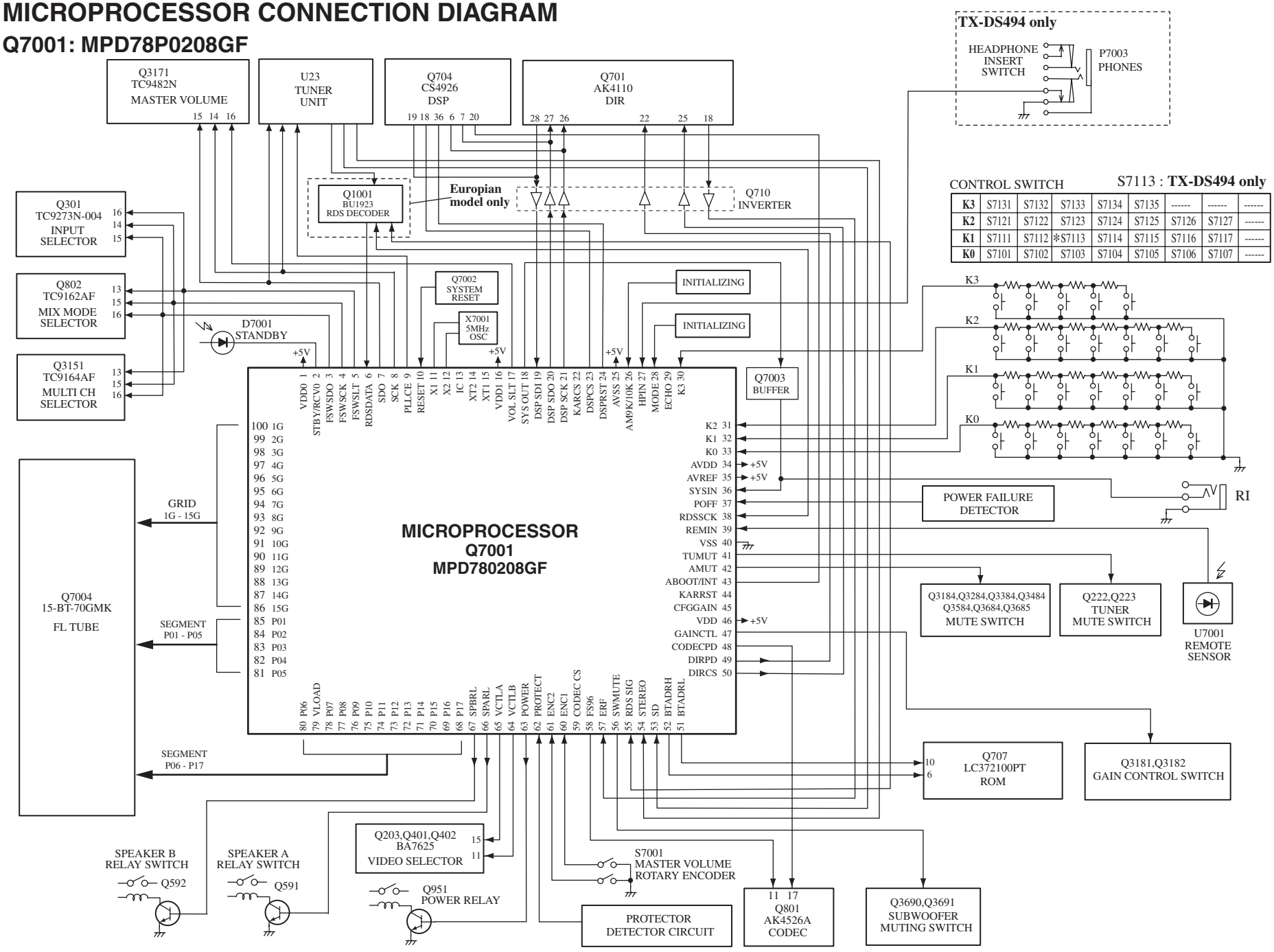


E F G


U6 SECONDARY TERMINAL PC BOARD
NAETC-6795
POWER TRANS
FL AC
PT
NAETC-7054
U18 PRIMARY TERMINAL PC BOARD
POWER
POWER SW
NASW-7052
U16 POWER SWITCH PC BOARD
U19 REGULATOR
NAPS-7055
REGULATOR CIRCUIT PC BOARD
5V
DSP
Q933 78M05
+12V
Q921 78M12
AUDIO
-12V
Q922 79M12
VOLUME
ROTARY ENCODER
NAETC-7046
U10 MASTER VOLUME PC BOARD
SUB PT
POWER RELAY
Q951
+B
MAIN AMP
-B
AC IN
MD; AC120V
MJ; AC100V
MG; AC220-230V
MP; AC230-240V
MW; AC120V and AC220-230V
NAPS-7051
U15 PRIMARY CIRCUIT PC BOARD
DSP+5V
+24V
AUDIO+12V
AUDIO-12V
FL-29V
Q932
-29V REGULATOR
Q934 78M05
Q931 78M56
FRONT CH
NAAF-6789
U1 FRONT CHANNEL POWER AMPLIFIER PC BOARD
HEAD PHONE JACK (TX-DS494 ONLY)
HPIN
NAETC-7045
U9 HEAD PHONE JACK PC BOARD
TONE VR
NAETC-7047
Q3151 TC9164AF
FSWSLT
FSWSDO
FSWSCK
AF INPUT/VOLUME /TONE
Q3171 TC9482N
+1dB/+11dB
Q3181 NJM4565M-D
Q3182
Q3181,3183 NJM4565M-D
+1dB
Q3184
Q3281 NJM4565M-D
Q3282
Q3281,3183 NJM4565M-D
Q3284
Q3301 NJM4565M-D
+4.2dB
Q3381 NJM4565M-D
+8.4dB
Q3384
Q3501 NJM4565M-D
Q3581 NJM4565M-D
Q3584
+27dB
Q3684, Q3685
VOLSLT
SDO
SCK
GAINCTL
FMUTE
BYPASS
MIXED
MULTI-CH
DIRECT
DSP
PROTECT
I-PRO
V-PRO
+29dB
SURROUND CH
RI
MWT only
AM FREQ STEP
NAAF-6790
U2 SURROUND CHANNEL POWER AMPLIFIER PC BOARD
FRONT SPEAKER
U3 FRONT SPEAKER TERMINAL PC BOARD
SP out 21Vrms Max (8ohm)
SPARL
SPBRL
R L SPEAKERS
SP-A
SP-B
NAETC-6791
SPEAKERS
C RS LS
CENTER SPEAKER
SURROUND SPEAKER
NAETC-6792
U4 SURROUND SPEAKER TERMINAL PC BOARD
U8 MAIN PC BOARD
NAAR-7044
U20 VIDEO TERMINAL PC BOARD
FOR TX-DS494 FOR HT-R490
P401
NAETC-7056
MONITOR
DVD
V1 IN
V2 IN
P402
Q405
Q406
BA7625
VCTLB
VCTLA
+5V
S-VIDEO SELECTOR
NAAF-7050
U14 INPUT TERMINAL PC BOARD

MICROPROCESSOR CONNECTION DIAGRAM

Q7001: MPD78P0208GF



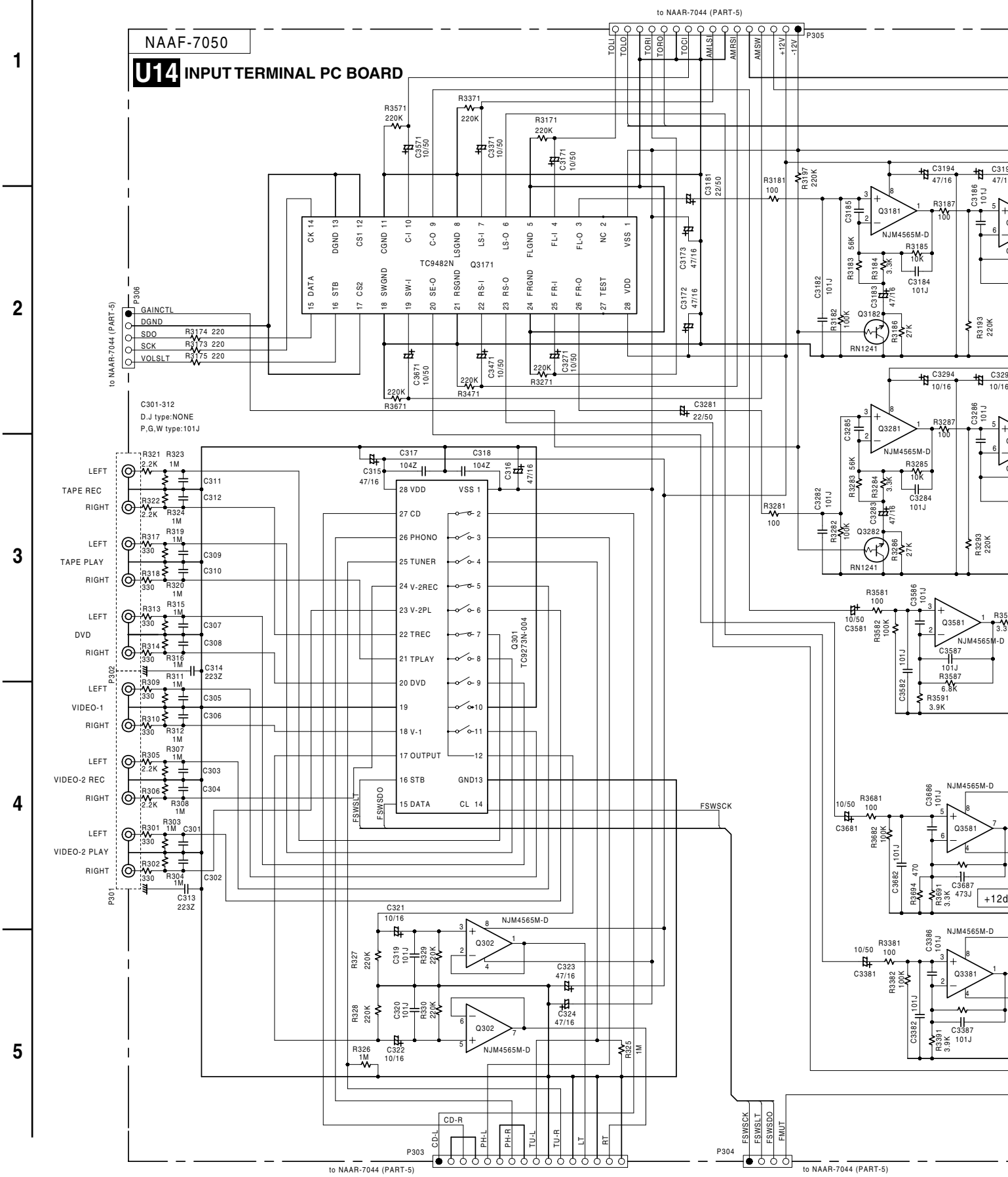
K3	S7131	S7132	S7133	S7134	S7135	------	------	------
K2	S7121	S7122	S7123	S7124	S7125	S7126	S7127	------
K1	S7111	S7112	*S7113	S7114	S7115	S7116	S7117	------
K0	S7101	S7102	S7103	S7104	S7105	S7106	S7107	------

MICROPROCESSOR TERMINAL DESCRIPTIUON

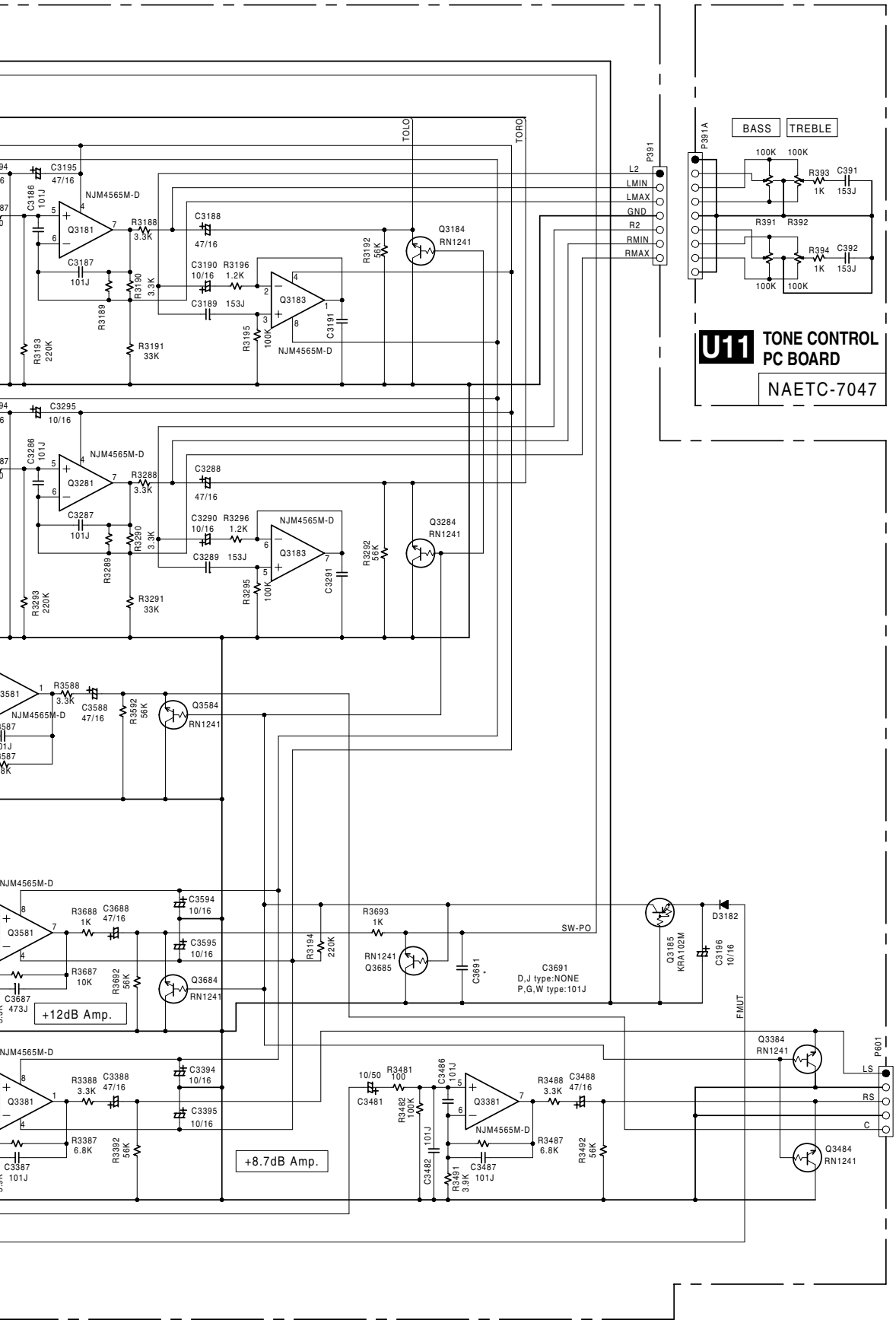
Q7001: MPD78P0208GF

No.	Function	I/O	Description	No.	Function	I/O	Description
1	VDD	I	Power supply terminal. (+5V)	38	RDSSCK	I	Clock input terminal from RDS decoder.
2	STBY/RECV	O	STANDBY/RECEIVED inductor control output terminal.	39	REMIN	I	Signal input terminal from remote sensor.
3	FSWSDO	O	Data output terminal to function switch ICs.	40	VSS	I	Power supply terminal (GND).
4	FSWSCK	O	Clock output terminal to function switch ICs.	41	TUMUT	O	Muting control output terminal for tuner section.
5	FSWSLT	O	Latch output terminal to function switch ICs.	42	AMUT	O	Muting control output terminal for amplifier section.
6	RDSDATA	I	Data input terminal from RDS decoder.	43	ABOOT/INT	I/O	AUTOBOOT and INTREQ I/O terminal for DSP(CS4296).
7	SDO	O	Data output terminal to PLL IC and Master volume IC (TC9482N).	44	KARRST	O	Not used.
8	SCK	O	Clock output terminal to PLL IC and Master volume IC (TC9482N).	45	CFGGAIN	O	Not used.
9	PLLCE	O	Chip enable output terminal to PLL IC.	46	VDD	I	Power supply terminal (+5V).
10	RESET	I	System reset input terminal.	47	GAINCTL	O	Gain control output terminal.
11	X1	O	Ceramic oscillator connection terminals.	48	CODECPD	O	Power down signal output terminal to CODEC(AK4526).
12	X2	I	Connect 5.0MHz ceramic oscillator between the both terminals.	49	DIRPD	O	Power down signal output terminal to DIR (AK4110).
13	GND	I	Internal connection terminal.(to GND)	50	DIRCS	O	Chip enable output terminal to DIR (AK4110).
14	XT2	O	Sub system clock output terminal. Not used.	51	BTADRL	O	Output terminal to set LSB position of address to boot ROM (MX29F002T).
15	XT1	I	Sub system clock input terminal. Not used.(to GND)	52	BTADRH	O	Output terminal to set MSB position of address to boot ROM (MX29F002T).
16	Vdd	I	Power supply terminal .(+5V)	53	SD	I	Broadcast detection input terminal.
17	VOL SLT	O	Latch output terminal to Master volume IC(TC9482N).	54	STEREO	I	Stereo broadcast detection input terminal.
18	SYSOUT	O	System code output terminal.	55	RDSSIG	I	Signal input terminal from RDS decoder.
19	DSPSDI	I	Data input terminal from DIR(AK4110).	56	SWMUTE	O	SW Preout muting control output terminal for amplifier section.
20	DSPSDO	O	Data output terminal to DIR (AK4110),DSP(CS4926,).	57	ERF	I	ERF Signal input terminal from DIR(AK4110).
21	DSPSCK	O	Clock output terminal to DIR (AK4110),DSP(CS4926)	58	FS96	O	FS96 Signal output terminal to CODEC(AK4526)
22	KARCS	O	Not used.	59	CODECCS	O	Not used.
23	DSPCS	O	Chip enable output terminal to DSP(CS4926).	60	ENC1	I	Volume control input terminal.
24	DSPRST	O	Reset output terminal to DSP(CS4926).	61	ENC2	I	Volume control input terminal.
25	AVSS	I	Power supply terminal.(GND)	62	PROTECT	I	Detection input terminal for protection circuit.
26	AM9K/10K	I	Initializing input terminal for AM band step.	63	POWER	O	Relay control output terminal for power.
27	HPIN	I	Detection input terminal from headphone..	64	VCTLB	O	Video selector control output terminal.
28	MODE	I	Initializing input terminal of operation mode..	65	VCTLA	O	Video selector control output terminal.
29	ECHO	I	Not used.	66	SPARL	O	Control output terminal for SPEAKER A relay.
30-33	K3-K0	I	Operation key connection terminals.	67	SPBRL	O	Control output terminal for SPEAKER B relay.
34	AVDD	I	Power supply terminal.(+5V)	68-78	P17-P7	O	Segment output terminals for FL tube.
35	AVREF	I	Reference voltage terminal.	79	VLOAD		Power supply terminal for FL tube.
36	SYSIN	I	System code input terminal.	80-85	P6-P1	O	Segment output terminals for FL tube.
37	POFF	I	Power failure detection terminal.	86-100	15G-1G	O	Grid output terminals for FL tube.

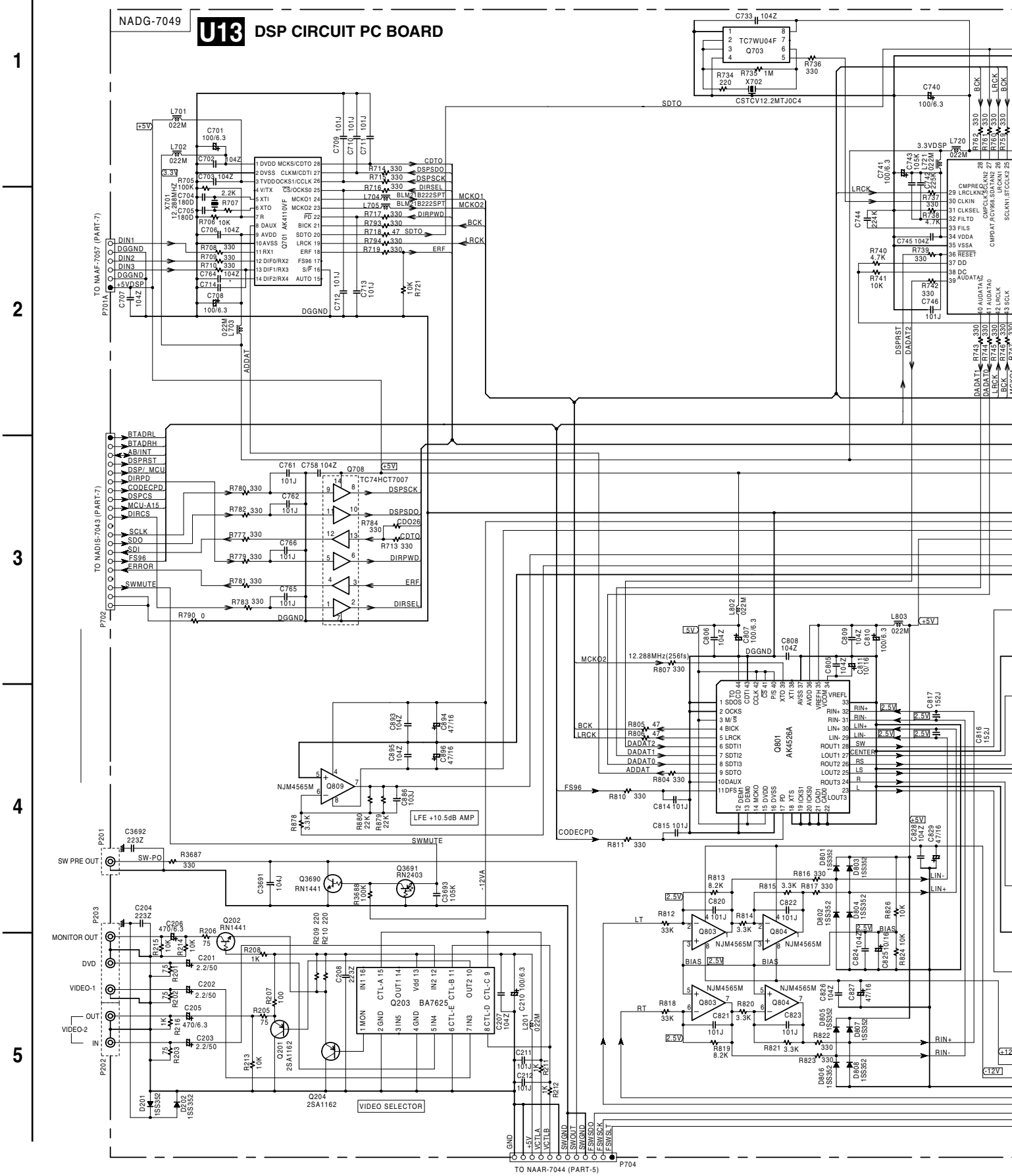
SCHEMATIC DIAGRAM-1



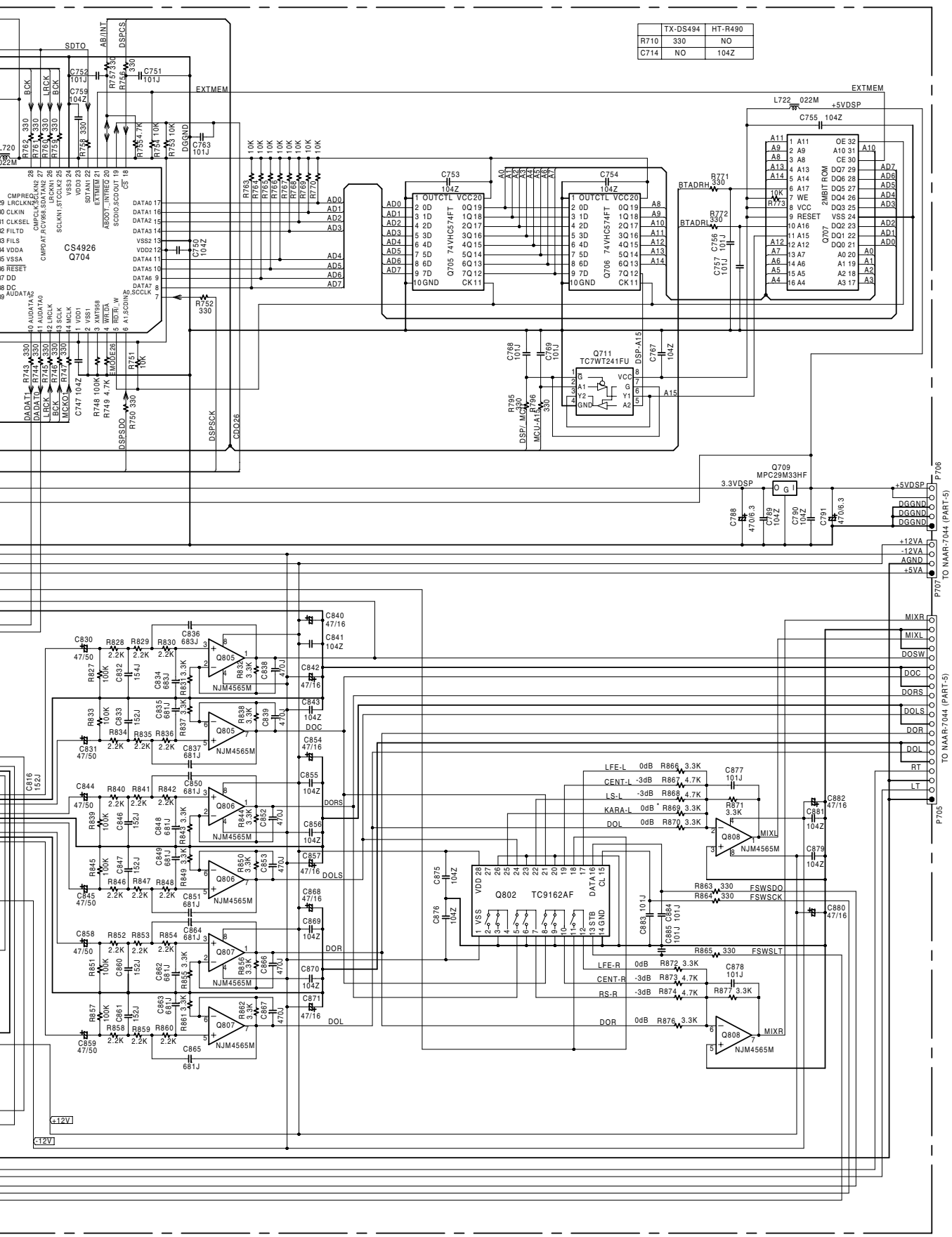
E F G


TOLO
TORO
P391
L2
LMIN
LMAX
GND
R2
RMIN
RMAX
P391A
BASS
TREBLE
100K 100K
R393 1K
C391 153J
R391 R392
R394 1K
C392 153J
100K 100K
U11 TONE CONTROL PC BOARD
NAETC-7047
NJM4565M-D
Q3181
Q3183
Q3184 RN1241
C3195 47/16
C3186 101J
C3187 101J
C3188 47/16
C3189 153J
C3190 10/16
R3188 3.3K
R3189
R3190 3.3K
R3191 33K
R3192 56K
R3193 220K
R3195 100K
R3196 1.2K
C3191
Q3281
Q3284 RN1241
C3286 101J
C3287 101J
C3288 47/16
C3289 153J
C3290 10/16
C3291
R3288 3.3K
R3289
R3290 3.3K
R3291 33K
R3292 56K
R3293 220K
R3295 100K
R3296 1.2K
C3295 10/16
Q3581
Q3584 RN1241
C3581
C3587 101J
C3588 47/16
R3588 3.3K
R3592 56K
Q3384 RN1241
P801
LS
RS
C
NAAF-6790 (PART-6)
Q3484 RN1241
Q3381
C3381
C3387 101J
C3388 47/16
C3394 10/16
C3395 10/16
R3387 6.8K
R3388 3.3K
R3392 56K
+8.7dB Amp.
C3481 10/50
R3481 100
R3482 100K
C3482 101J
C3486 101J
R3487 6.8K
R3488 3.3K
C3487 101J
C3488 47/16
R3491 3.9K
R3492 56K
Q3684 RN1241
C3684
C3687 473J
C3688 47/16
C3594 10/16
C3595 10/16
R3687 10K
R3688 1K
R3692 56K
+12dB Amp.
R3194 220K
R3693 1K
RN1241 Q3685
C3691
C3691 D,J type:NONE P,G,W type:101J
SW-PO
Q3185 KRA102M
D3182
C3196 10/16
FMUT

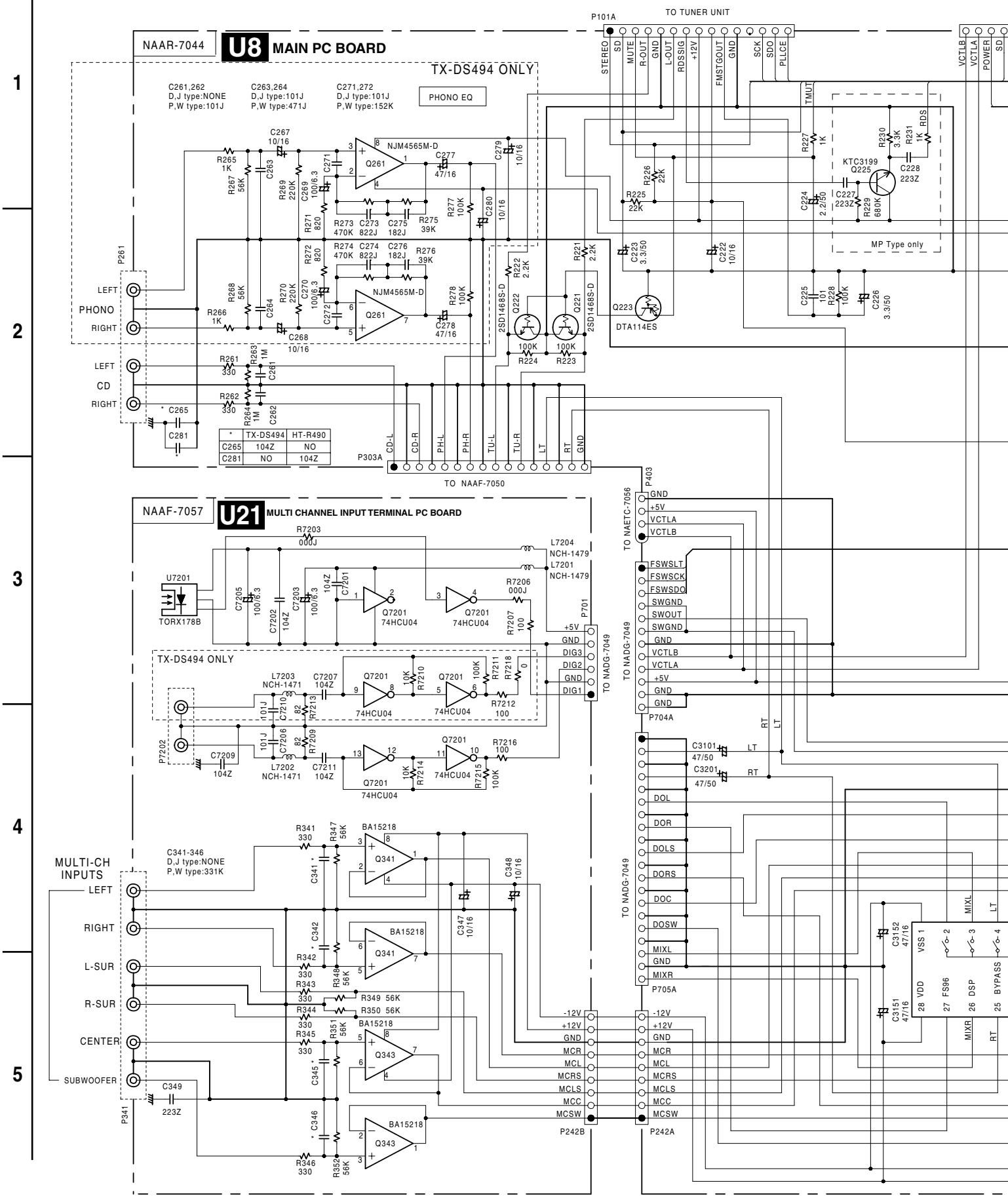
SCHEMATIC DIAGRAM-2

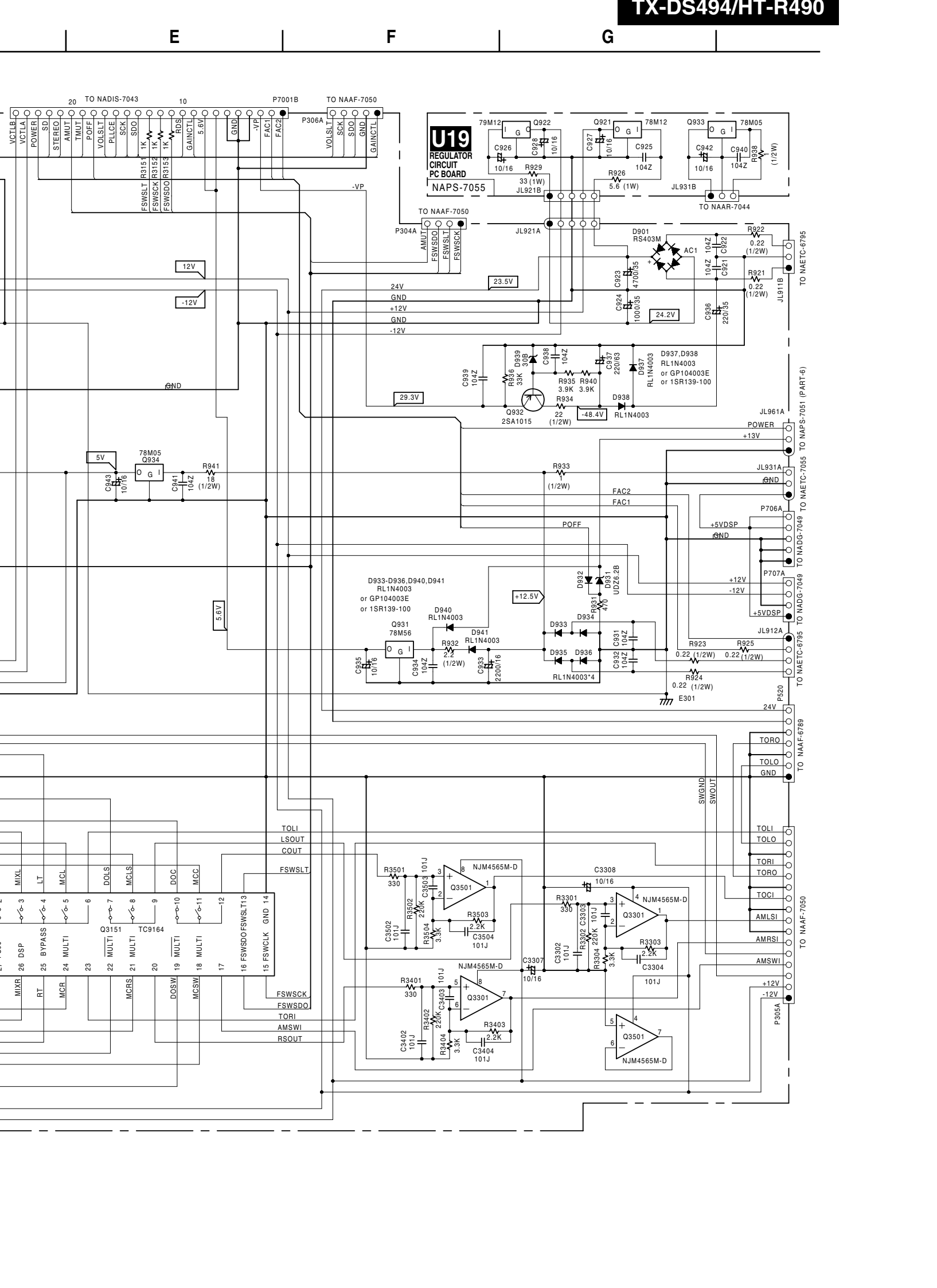


E F G


TX-DS494 HT-R490
R710 330 NO
C714 NO 104Z
CS4926
Q704
Q705 74VHC574FT
Q706 74VHC574FT
Q711 TC7WT241FU
Q709 MPC29M33HF
Q802 TC9162AF
Q805 NJM4565M
Q806 NJM4565M
Q807 NJM4565M
Q808 NJM4565M
Q707 2MBIT ROM
L722 022M
EXTMEM
+5VDSP
3.3VDSP
SDTO
AB/INT
DSPCS
DSPSCK
CDO26
DSPSDO
BCK
LRCK
MCKO
DADAT1
DADAT0
DGGND
+12VA
-12VA
AGND
+5VA
TO NAAR-7044 (PART-5)
P706
P707
P705
MIXR
MIXL
DOSW
DOC
DORS
DOLS
DOR
DOL
RT
LT
LFE-L
CENT-L
LS-L
KARA-L
DOL
RS-R
CENT-R
DOR
FSWSDO
FSWSCK
FSWSLT
+12V
-12V

SCHEMATIC DIAGRAM-3



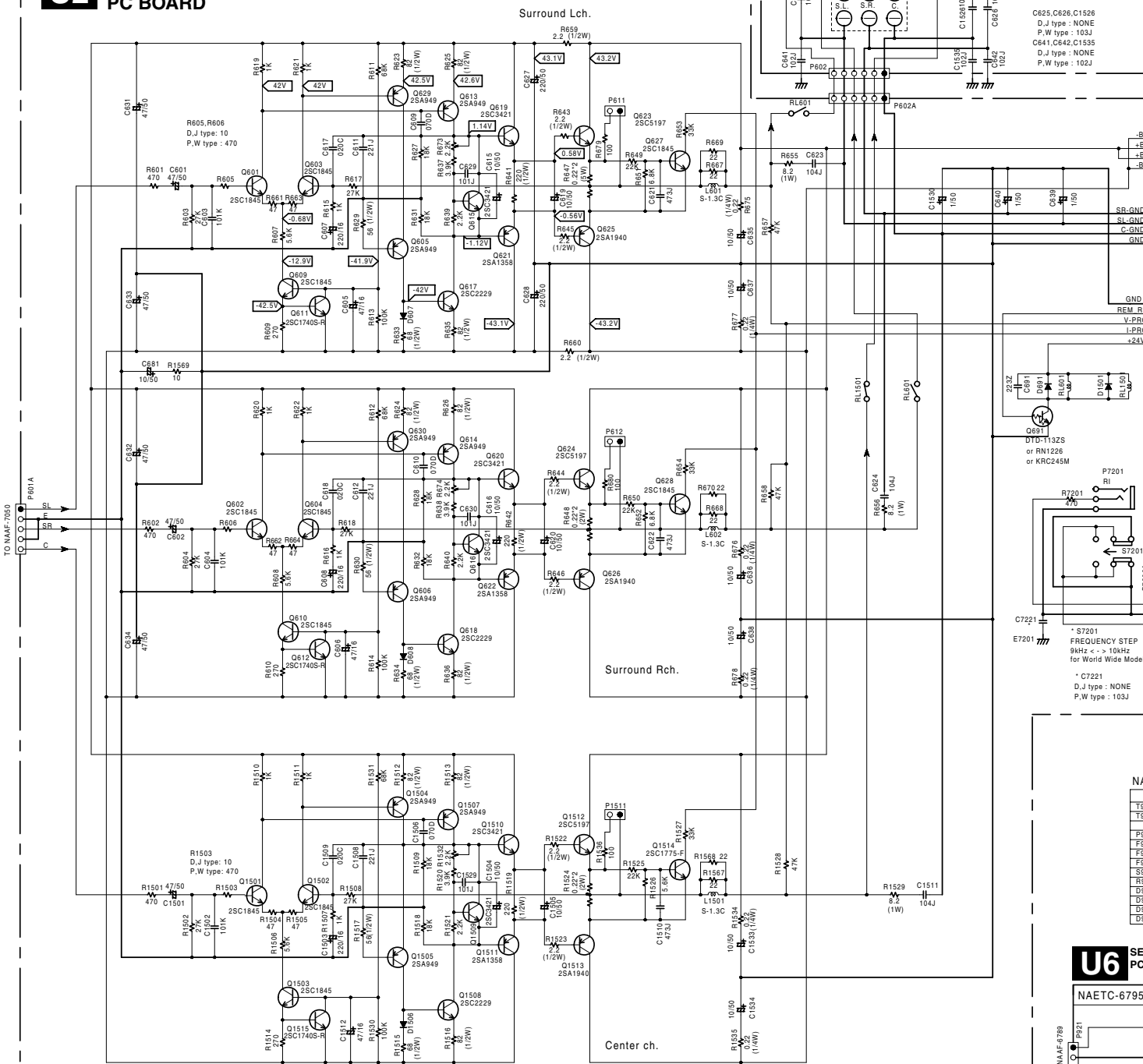

E
F
G
U19
REGULATOR CIRCUIT PC BOARD
NAPS-7055
TO NADIS-7043
P7001B
TO NAAF-7050
P306A
VCTLB
VCTLA
POWER
SD
STEREO
AMUT
TMUT
POFF
VOLSLT
PLLCE
SCK
SDO
RDS
GAINCTL
5.6V
GND
-VP
FAC1
FAC2
GAINCTL
R3151
R3152
R3153
FSWSLT
FSWSCK
FSWSDO
TO NAAR-7044
JL921B
JL931B
P304A
JL921A
AMUT
FSWSDO
FSWSLT
FSWSCK
79M12
Q922
Q921
78M12
Q933
78M05
C926
C928
C927
C925
C942
C940
R929
33 (1W)
R926
5.6 (1W)
R938
D901
RS403M
AC1
C922
C921
C923
C924
C936
R922
R921
0.22 (1/2W)
JL911B
TO NAETC-6795
12V
-12V
24V
GND
+12V
GND
-12V
23.5V
24.2V
C939
R936
D939
30B
C938
R935
R940
3.9K
C937
220/63
D937
RL1N4003
D937,D938
RL1N4003
or GP104003E
or 1SR139-100
Q932
2SA1015
R934
22 (1/2W)
D938
RL1N4003
29.3V
-48.4V
JL961A
POWER
+13V
GND
TO NAPS-7051 (PART-6)
5V
78M05
Q934
C943
C941
R941
18 (1/2W)
R933
(1/2W)
JL931A
GND
TO NAETC-7055
FAC2
FAC1
P706A
+5VDSP
GND
TO NADG-7049
POFF
D933-D936,D940,D941
RL1N4003
or GP104003E
or 1SR139-100
D932
D931
UDZ6.2B
+12.5V
R931
470
P707A
+12V
-12V
+5VDSP
TO NADG-7049
5.6V
D940
RL1N4003
Q931
78M56
D941
RL1N4003
R932
2.2 (1/2W)
D933
D934
C935
C934
C933
2200/16
D935
D936
C931
C932
RL1N4003*4
JL912A
R923
R925
0.22 (1/2W)
R924
0.22 (1/2W)
E301
TO NAETC-6795
P520
24V
TORO
TOLO
GND
TO NAAF-6789
SWGND
SWOUT
TOLI
LSOUT
COUT
FSWSLT
MIXL
LT
MCL
DOLS
MCLS
DOC
MCC
Q3151
TC9164
MIXR
RT
MCR
MCRS
DOSW
MCSW
DSP
BYPASS
MULTI
FSWSDO
FSWSLT3
FSWCLK
GND
FSWSCK
FSWSDO
TORI
AMSWI
RSOUT
R3501
330
C3503
101J
R3502
220K
C3502
101J
R3504
3.3K
Q3501
NJM4565M-D
R3503
2.2K
C3504
101J
C3308
10/16
R3301
330
C3303
101J
R3302
220K
R3304
3.3K
Q3301
NJM4565M-D
R3303
2.2K
C3304
101J
C3307
10/16
C3302
101J
R3401
330
C3403
101J
R3402
220K
C3402
101J
R3404
3.3K
Q3301
NJM4565M-D
R3403
2.2K
C3404
101J
Q3501
NJM4565M-D
TOLI
TOLO
TORI
TORO
TOCI
AMLSI
AMRSI
AMSWI
+12V
-12V
P305A
TO NAAF-7050

SCHEMATIC DIAGRAM-4

SURROUND SPEAKER TERMINAL PC BOARD U4

NAAF-6790

U2 SURROUND CHANNEL POWER AMPLIFIER PC BOARD



Q507,Q508,Q509,Q510,Q513,Q514, Q605,Q606,Q613,Q614,Q629,Q630, Q1504,Q1505,Q1507,	KTA1024 or 2SA949	Q591,Q592,Q951	KRC105M or DTC123JS or RN1205
Q515,Q516,Q617,Q618,Q1508,	KTC3206 or 2SC2229	Q691	DTD113ZS or RN1226 or KRC245M
Q523,Q524,Q623,Q624,Q1512	KTD718 or 2SC5197 or 2SC4467	Q529,Q530,Q611,Q612,Q1515	KTC3199 or 2SC1740 or 2SC2458
Q525,Q526,Q625,Q626,Q1513	KTB688 or 2SA1940 or 2SA1694	Q501,Q502,Q503,Q504,Q505,Q506,	
Q519,Q520,Q619,Q620,Q1510	2SC3421 or KTD600K	Q527,Q528,Q581,Q582,Q601,Q602, Q603,Q604,Q609,Q610,Q627,Q628,	
Q521,Q522,Q621,Q622,Q1511	2SA1358 or KTB631K	Q1501,Q1502,Q1503,Q1514,	2SC1845 or 2SC1775A

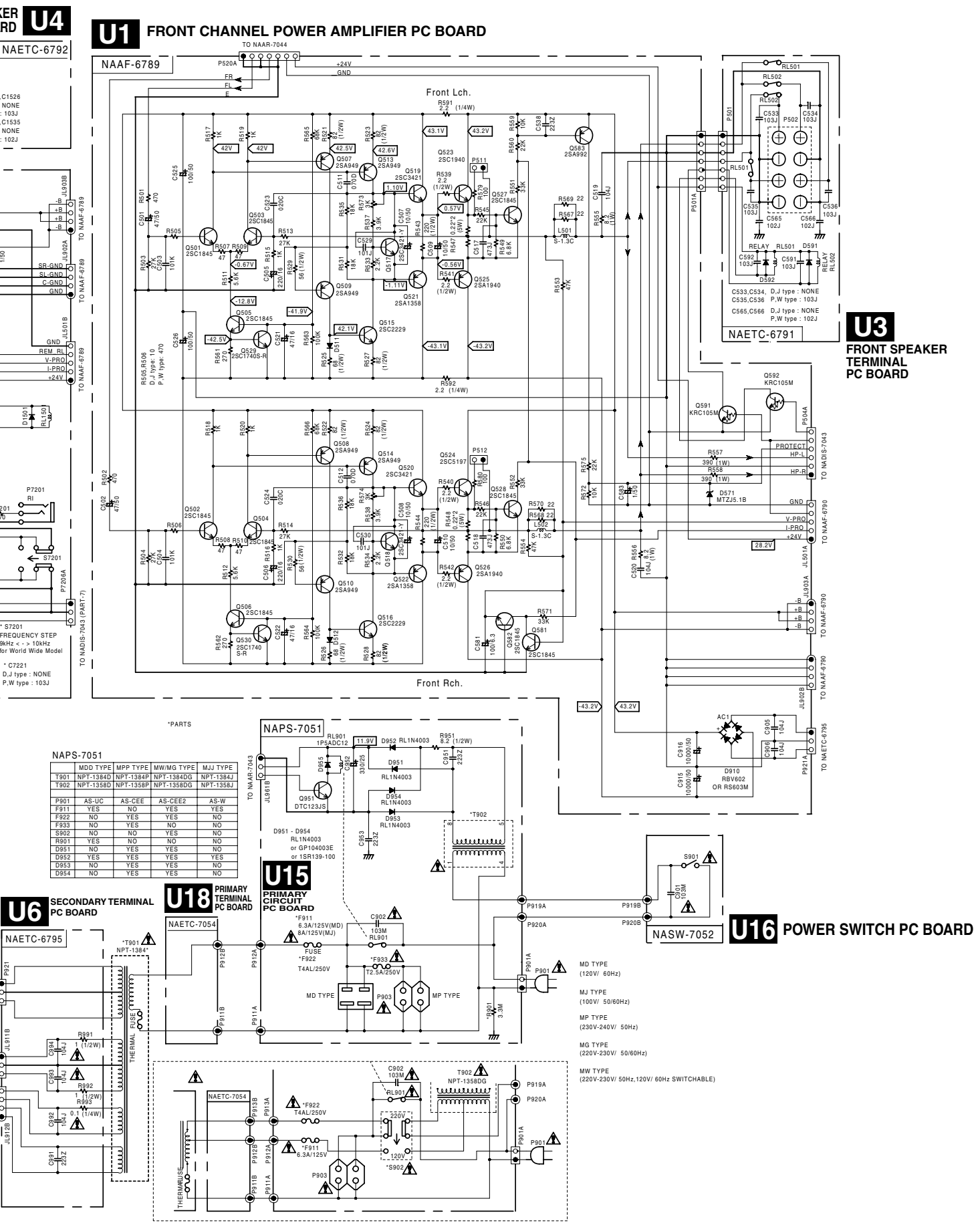
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE FUSE HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MAKING ADJACENT TO THE SYMBOL.

CE SYMBOLE INDIQUE QUE LE FUSIBLE UTLISE EST A LENT, E POUR UNE PROTECTION PERMANENTE,N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DARNIER EST INDIQUE LA QU LE PRESENT SYMBOL EST APPOSE.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTIION
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.

E F G

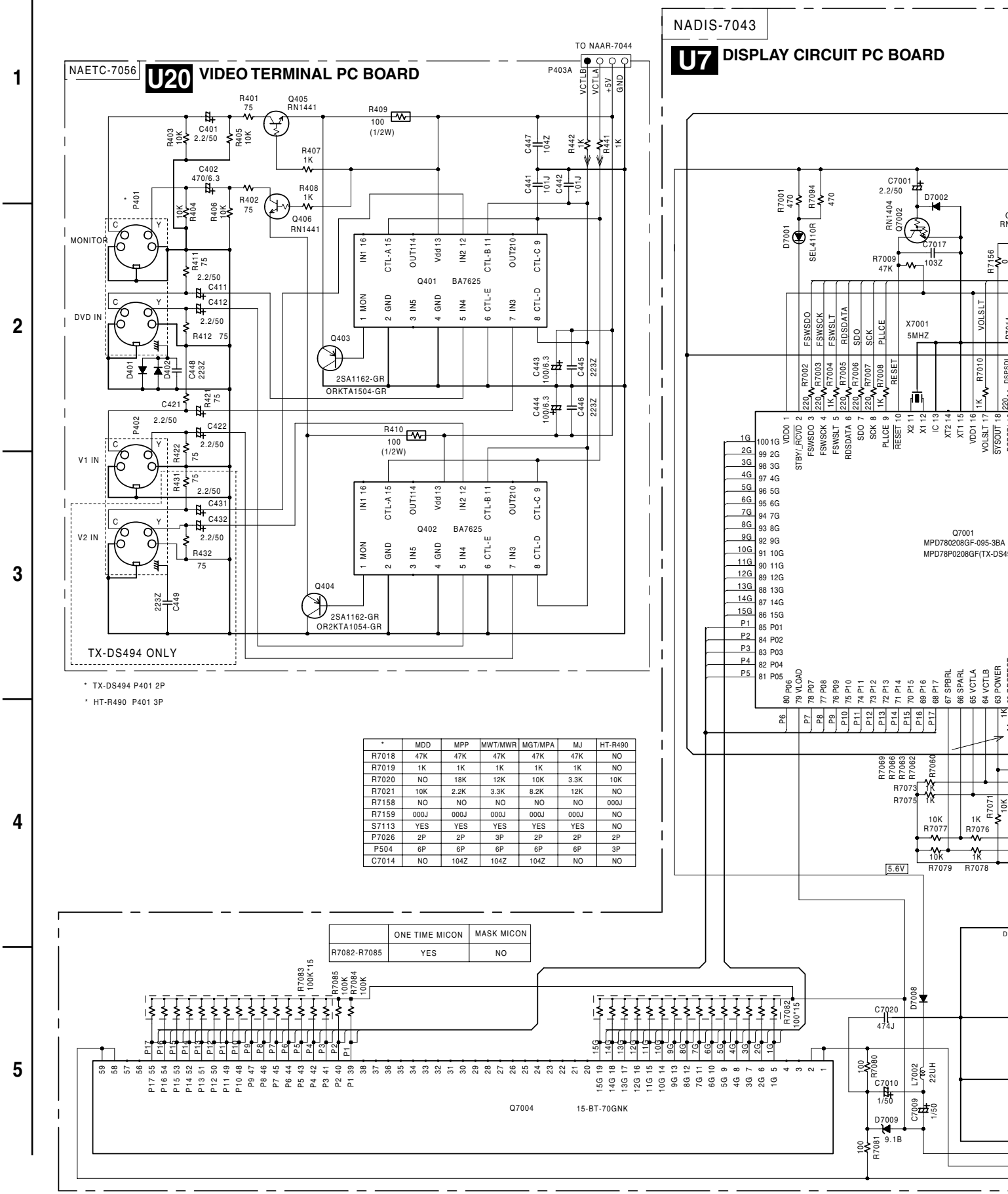


*PARTS

NAPS-7051

	MDD TYPE	MPP TYPE	MW/MG TYPE	MJJ TYPE
T901	NPT-1384D	NPT-1384P	NPT-1384DG	NPT-1384J
T902	NPT-1358D	NPT-1358P	NPT-1358DG	NPT-1358J
P901	AS-UC	AS-CEE	AS-CEE2	AS-W
F911	YES	NO	YES	YES
F922	NO	YES	NO	NO
F933	NO	YES	NO	NO
S902	NO	NO	YES	NO
R901	YES	NO	NO	NO
D951	NO	YES	YES	NO
D952	YES	YES	YES	YES
D953	NO	YES	YES	NO
D954	NO	YES	YES	NO

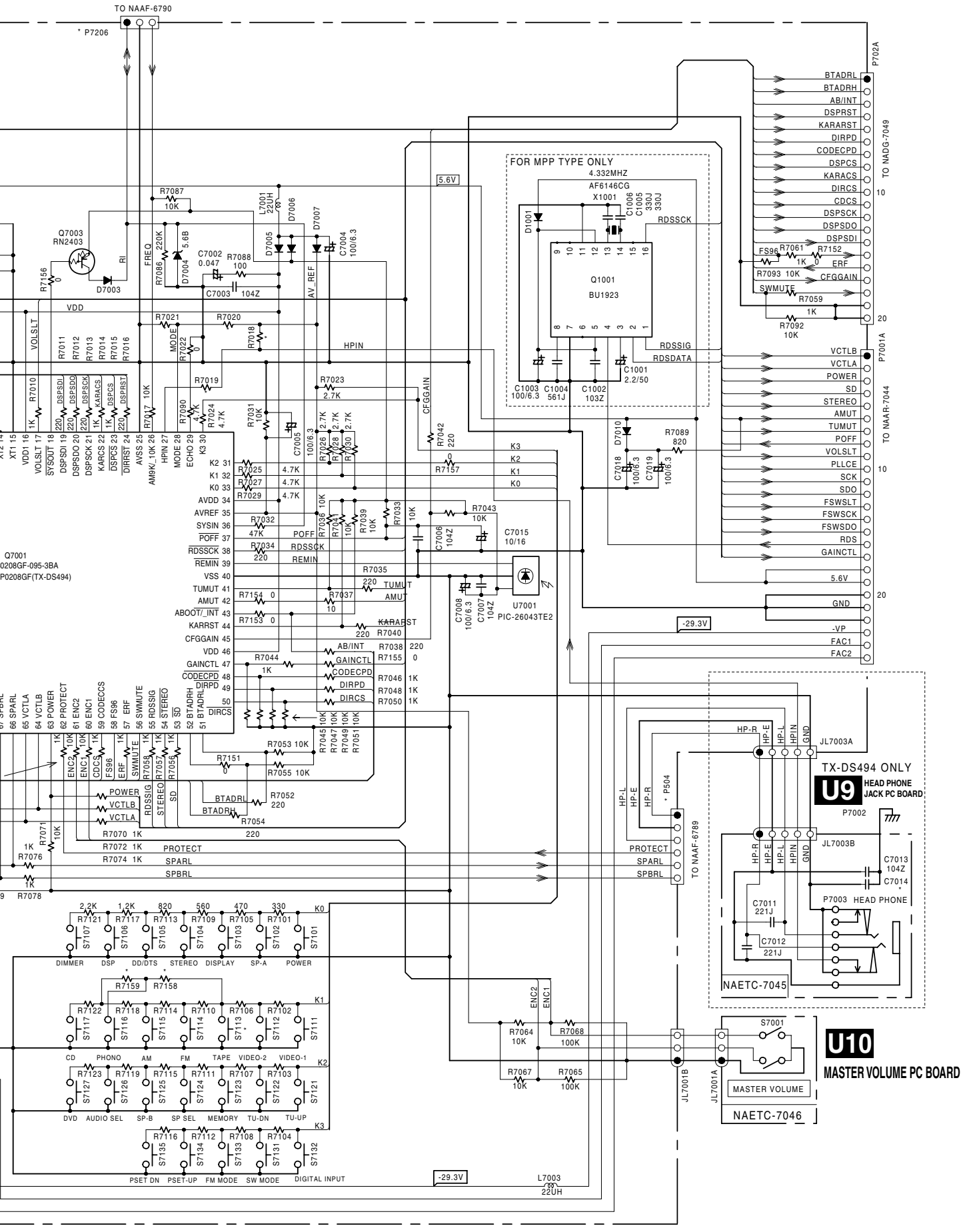
SCHEMATIC DIAGRAM-5



*	MDD	MPP	MWT/MWR	MGT/MPA	MJ	HT-R490
R7018	47K	47K	47K	47K	47K	NO
R7019	1K	1K	1K	1K	1K	NO
R7020	NO	18K	12K	10K	3.3K	10K
R7021	10K	2.2K	3.3K	8.2K	12K	NO
R7158	NO	NO	NO	NO	NO	000J
R7159	000J	000J	000J	000J	000J	NO
S7113	YES	YES	YES	YES	YES	NO
P7026	2P	2P	3P	2P	2P	2P
P504	6P	6P	6P	6P	6P	3P
C7014	NO	104Z	104Z	104Z	NO	NO

	ONE TIME MICON	MASK MICON
R7082-R7085	YES	NO

E F G


TO NAAF-6790
* P7206
FOR MPP TYPE ONLY
4.332MHZ
AF6146CG
X1001
Q1001
BU1923
RDSSCK
RDSSIG
RDSDATA
TO NADG-7049
TO NAAR-7044
P702A
P7001A
BTADRL
BTADRH
AB/INT
DSPRST
KARARST
DIRPD
CODECPD
DSPCS
KARACS
DIRCS
CDCS
DSPSCK
DSPSDO
DSPSDI
ERF
CFGGAIN
SWMUTE
VCTLB
VCTLA
POWER
SD
STEREO
AMUT
TUMUT
POFF
VOLSLT
PLLCE
SCK
SDO
FSWSLT
FSWSCK
FSWSDO
RDS
GAINCTL
5.6V
GND
-VP
FAC1
FAC2
-29.3V
TX-DS494 ONLY
U9
HEAD PHONE JACK PC BOARD
P7002
JL7003A
JL7003B
P7003 HEAD PHONE
NAETC-7045
TO NAAF-6789
PROTECT
SPARL
SPBRL
U10
MASTER VOLUME PC BOARD
MASTER VOLUME
NAETC-7046
JL7001A
JL7001B
S7001
U7001
PIC-26043TE2
Q7001
0208GF-095-3BA
P0208GF(TX-DS494)
DIMMER
DSP
DD/DTS
STEREO
DISPLAY
SP-A
POWER
CD
PHONO
AM
FM
TAPE
VIDEO-2
VIDEO-1
DVD
AUDIO SEL
SP-B
SP SEL
MEMORY
TU-DN
TU-UP
PSET DN
PSET-UP
FM MODE
SW MODE
DIGITAL INPUT
L7003
22UH

PRINTED CIRCUIT BOARD PARTS LIST-1

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<PA> : Australian model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

U1

FRONT CHANNEL POWER AMPLIFIER PC BOARD (NAAF-6789-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q501-Q506	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q507-Q510	2211353 or	2SA949-O or
	2215844 or	KTA1024-Y or
	2215843	KTA1024-O
Q513,Q514	2211353 or	2SA949-O or
	2215844 or	KTA1024-Y or
	2215843	KTA1024-O
Q515,Q516	2215854 or	KTC3206-Y or
	2215853	KTC3206-O
Q519,Q520	2203523 or	KTD600K-Y or
	2203524	KTD600K-GR
Q521,Q522	2203513 or	KTB631K-Y or
	2203514	KTB631K-GR
Q527,Q528	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q529,Q530	2213284 or	2SC1740S-R or
	2212115 or	2SC2458-GR or
	2215864	KTC3199-GR
Q581,Q582	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q583	2211792 or	2SA992-F or
	2211793 or	2SA992-E or
	2215885 or	KTA1268-GR or
	2215886	KTA1268-BL
Q591,Q592	2214660 or	RN1205 or
	2213640 or	DC123JS or
	2215830	KRC105M
	Diodes	
D511,D512	223163 or	1SS133 or
	223205	1SS270A
D571	224470512	MTZJ5.1B
	Coils	
L501,L502	231176S	S-1.3C
	Capacitors	
C501,C502	354784709	47uF,50V, Elect.
C503,C504	374721015	100pF+/-10%,50V, Plastic
C505,C506	354742219	220uF,16V, Elect.
C507-C510	354781009	10uF,50V, Elect.
C517,C518	374724734	0.047uF+/-5%,50V, Plastic
C519,C520	374721044	0.1uF+/-5%,50V, Plastic
C521,C522	354744709	47uF,16V, Elect.
C525,C526	354781019	100uF,50V, Elect.
C581	354721019	100uF,6.3V, Elect.
C583	354780109	1uF,50V, Elect.
C905,C906	374721044	0.1uF+/-5%,50V, Plastic
C915,C916	3504344	10000uF,50V, Elect.
	Resistors	
R521-R524	443528204	82ohm+/-5%,1/2W, Metal oxide
R525,R526	443526804	68ohm+/-5%,1/2W, Metal oxide
R527,R528	443528204	82ohm+/-5%,1/2W, Metal oxide
R529,R530	443525604	56ohm+/-5%,1/2W, Metal oxide
R543,R544	443522214	220ohm+/-5%,1/2W, Metal oxide
R547,R548	4000132 or	0.22ohm+/-5%,5W, Metal plate or
	4000201 or	0.22ohm+/-5%,5W, Metal plate or
	4500245	0.22ohm+/-5%,5W, Metal plate
R555,R556	453630824	8.2ohm+/-5%,1W, Metal oxide
R557,R558	443623914	390ohm+/-5%,1W, Metal oxide <494>
R573,R574	5210260	N06HR3KTBC, Trimming resistor
R591,R592	4500171F	2.2ohm+/-5%,1/4W, Metal oxide
	Sockets	
JL501A	25051109	NSCT-5P896
JL902B	25050268	NSCT-4P96
JL903A	25051108	NSCT-4P895
	Plugs	
P504A	25055441	NPLG-3P423
P511,P512	25055038	NPLG-2P29
P921A	25055175	NPLG-3P159

U2

SURROUND CHANNEL POWER AMPLIFIER PC BOARD (NAAF-6790-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q1501-Q1503,Q1514	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q1504,Q1505,Q1507	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q601-Q604	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q605,Q606	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q609,Q610	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL

PRINTED CIRCUIT BOARD PARTS LIST-2

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PA> : Australian model only
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
Q611,Q612,Q1515	2212115 or	2SC2458-GR or
	2213284 or	2SC1740S-R or
	2215864	KTC3199-GR
Q613,Q614	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q615,Q616,Q1509	2212653 or	2SC3421-O or
	2212654	2SC3421-Y
Q617,Q618,Q1508	2211633 or	2SC2229-O or
	2215853 or	KTC3206-O or
	2215854	KTC3206-Y
Q619,Q620,Q1510	2203523 or	KTD600K-Y or
	2203524	KTD600K-GR
Q621,Q622,Q1511	2203513 or	KTB631K-Y or
	2203514	KTB631K-GR
Q627,Q628	2210755 or	2SC1775A-E or
	2210756 or	2SC1775A-F or
	2211732 or	2SC1845-F or
	2211733 or	2SC1845-E or
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q629,Q630	2211353 or	2SA949-O or
	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q691	2213650 or	DTD113ZS or
	2214680 or	RN1226 or
	2216060	KRC245M
	Diodes	
D1501,D1506	223163 or	1SS133 or
	223205	1SS270A
D607,D608,D691	223163 or	1SS133 or
	223205	1SS270A
	Coils	
L601,L602,L1501	231176S	S-1.3C
	Capacitors	
C1504,C1505	354781009	10uF,50V, Elect.
C1533,C1534	354781009	10uF,50V, Elect.
C601,C602,C1501	354784709	47uF,50V, Elect.
C603,C604,C1502	374721015	100pF+/-10%,50V, Plastic
C605,C606,C1512	354744709	47uF,16V, Elect.
C607,C608,C1503	354742219	220uF,16V, Elect.
C615,C616	354781009	10uF,50V, Elect.
C619,C620	354781009	10uF,50V, Elect.
C621,C622,C1510	374724734	0.047uF+/-5%,50V, Plastic
C623,C624,C1511	374721044	0.1uF+/-5%,50V, Plastic
C627,C628	354782219	220uF,50V, Elect.
C631-C634	354784709	47uF,50V, Elect.
C635-C638,C681	354781009	10uF,50V, Elect.
C639,C640,C1530	354780109	1uF,50V, Elect.
	Resistors	
R1512,R1513,R151	443528204	82ohm+/-5%,1/2W, Metal oxide
R1522,R1523	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R1529	453630824	8.2ohm+/-5%,1W, Metal oxide
R1534,R1535	4500159F	0.22ohm+/-5%,1/4W, Metal oxide
R539-R542	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R623-R626	443528204	82ohm+/-5%,1/2W, Metal oxide
R629,R630,R1517	443525604	56ohm+/-5%,1/2W, Metal oxide
R633,R634,R1515	443526804	68ohm+/-5%,1/2W, Metal oxide
R635,R636	443528204	82ohm+/-5%,1/2W, Metal oxide
R641,R642,R1519	443522214	220ohm+/-5%,1/2W, Metal oxide
R643-R646	453530224	2.2ohm+/-5%,1/2W, Metal oxide
R647,R648,R1524	4000132 or	0.22ohm+/-5%,5W or
	4000201 or	0.22ohm+/-5%,5W or
	4500245	0.22ohm+/-5%,5W, Metal plate
R655,R656	453630824	8.2ohm+/-5%,1W, Metal oxide
R659,R660	4500268F	2.2ohm+/-5%,1/2W, Metal oxide
R673,R674,R1532	5210288	N06HR2.2KTBE, Trimming resistor
R675-R678	4500159F	0.22ohm+/-5%,1/4W, Metal oxide
	Relays	
RL601	25065563 or	NRL-2P5A-DC24-129 or
	25065590 or	NRL-2P8A-DC24-144 or
	25065618	NRL-2P5A-DC24-158
RL1501	25065574	NRL-1P5A-DC24-134
	Switch	
S7201	25065286	NSS-22112 <WR,WT>
	Jack	
P7201	25045504	NPJ-1PDBL319
	Sockets	
JL501B	25050282	NSCT-5P110
JL902A	25051108	NSCT-4P895
JL903B	25050268	NSCT-4P96
	Plugs	
P601A	25055236	NPLG-5P220
P611,P612,P1511	25055038	NPLG-2P29
P7206A	25055132	NPLG-2P116 <DD,PP,PA,GT,490>
	25055133	NPLG-3P117 <WR,WT>
	Clamp	
P589	260224	CP-1S

U3

FRONT SPEAKER TERMINAL PC BOARD (NAETC-6791-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D591,D592	223163 or	1SS133 or
	223205	1SS270A
	Capacitors	
C533-C536	374721034	0.01uF+/-5%,50V, Plastic <PP,PA,GT,WR,WT>
	Relays	
RL501,RL502	25065563 or	NRL-2P5A-DC24-129 or
	25065590 or	NRL-2P8A-DC24-144 or
	25065618	NRL-2P5A-DC24-158
	Socket	
P501	2009990572AUL	NSAS-14P0781
	Terminal	
P502	25060296 or	NTM-8PDMN227 or
	25060304	NTM-8PDMN235

U4

SURROUND SPEAKER TERMINAL PC BOARD (NAETC-6792-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C625,C626,C1526	374721034	0.01uF+/-5%,50V, Plastic <PP,PA,GT,WR,WT>
	Socket	
P602	2009990571AUL	NSAS-12P0780
	Terminal	
P603	25060297 or	NTM-6PDMN228 or
	25060303	NTM-6PDMN234

PRINTED CIRCUIT BOARD PARTS LIST-3

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<PA> : Australian model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

U6

SECONDARY TERMINALPC BOARD
(NAETC-6795-2A/2B/2C/2D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R991,R992	453530104	1ohm+/-5%,1/2W, Metal oxide
R993	4500229	0.1ohm+/-5%,1/4W, Metal oxide
	Sockets	
JL911A	25051107	NSCT-3P894
JL912B	25050281	NSCT-4P109
P921	2009990570AUL	NSAS-6P0779

U7

DISPLAY CIRCUIT PC BOARD
(NADIS-7043-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7004	212218	15-B-80GNK
	Remote sensor	
U7001	241330 or	PIC-26043E2 or
	241337	PIC-37043E2
	ICs	
Q1001	22241297R2	BU1923F <PP>
Q7001	22241658R3	MPD780208GF-095-3BA
	Transistors	
Q7002	2216210R2 or	KRC104S or
	2214490R2	RN1404
Q7003	2216230R2 or	KRA103S or
	2214540R2	RN2403
	Diode	
D1001	223234R2 or	1SS352 or
	223269R2	1SS355 <PP>
D7001	225290	SEL4110R
D7002	223234R2 or	1SS352 or
	223269R2	1SS355
D7004	224490560R2 or	UDZ5.6B or
	224550560R2	UDZS5.6B
D7005-D7008	223234R2 or	1SS352 or
	223269R2	1SS355
D7009	224490910R2 or	UDZ9.1B or
	224550910R2	UDZS9.1B
D7010	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L7001-L7003	231237K220R2	NCH-1477
	Oscillators	
X1001	3010203 or	AF6146CG or
	3010345	HQS-3H2-04332-20 <PP>
X7001	3010242	CS5.00MGW
	Capacitors	
C1001	355780229	2.2uF,50V, Elect. <PP>
C1003	355721019	100uF,6.3V, Elect. <PP>
C7001	355780229	2.2uF,50V, Elect.
C7002	3000120	FMC0H104Z
C7004,C7005,C700	355721019	100uF,6.3V, Elect.
C7009,C7010	355780109	1uF,50V, Elect.
C7015	355741009	10uF,16V, Elect.
C7018,C7019	355721019	100uF,6.3V, Elect.
C7020	375524744	MMT50V-474J

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switches	
S7101-S7107	25035652	NPS-111-S604
S7111,S7112	25035652	NPS-111-S604
S7113	25035652	NPS-111-S604 <494>
S7114-S7117	25035652	NPS-111-S604
S7121-S7127	25035652	NPS-111-S604
S7131-S7135	25035652	NPS-111-S604
	Sockets	
JL7001A	25051107	NSCT-3P894
JL7003A	25051109	NSCTT-5P896 <494>
P504	2009990580UL	NSAS-12P0789 <494>
P7001B	25052034 or	NSCT-25P1821or
	25050965 or	NSCT-25P752 or
	25051291or	NSCTT-25P1080 or
	25051832 or	NSCT-25P1619 or
	25052221	NSCT-25P2118
P702A	25052066 or	NSCT-20P1853 or
	25050926 or	NSCT-20P713 or
	25051324 or	NSCT-20P1113 or
	25051864 or	NSCT-20P1651 or
	25052253	NSCT-20P2150
P7206	2009990573UL	NSAS-4P0782 <DD,PP,PA,GT,490>
	2009990574UL	NSAS-6P0783 <WR,WT>
	Holder	
Q7004A	27190989A	(FL)

U8

MAIN PC BOARD
(NAAR-7044-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q261	22241383R2	NJM4565M-D <494>
Q931	222780565JRC	NJM78M56FA
Q934	222780055	78M05HF
Q3151	22241221R2	TC9164AF
Q3301,Q3501	22241383R2	NJM4565M-D
	Transistors	
Q221,Q222	2215024	2SD1468S-R
Q223	2213510 or	DTA114ES or
	2214350 or	RN2202 or
	2215770	KRA102M
Q225	2215864 or	KTC3199-GR or
	2212115 or	2SC2458-GR or
	2213284	2SC1740S-R <PP>
Q932	2215975	KTA1266-GR
	2211455	2SA1015-GR
	Diodes	
D901	22380285F or	RS403M or
	22380022F	RBV402
D931	224490620R2 or	UDZ6.2B or
	224550620R2	UDZS6.2B

PRINTED CIRCUIT BOARD PARTS LIST-4

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<PA> : Australian model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
D932	223234R2 or	1SS352 or
	223269R2	1SS355
D933-D938	22380260 or	RL1N4003 or
	22380032 or	1SR139-100 or
	22380035	GP104003E
D939	224493000R2	UDZ30B
D940,D941	22380260 or	RL1N4003 or
	Capacitors	
C222	354741009	10uF,16V, Elect.
C223,C226	354780339	3.3uF,50V, Elect.
C224	354780229	2.2uF,50V, Elect.
C267,C268	354741009	10uF,16V, Elect. <494>
C269,C270	354721019	100uF,6.3V, Elect. <494>
C273,C274	374728224	8200pF+/-5%, 50V, Plastic <494>
C275,C276	374721824	1800pF+/-5%, 50V, Plastic <494>
C277,C278	354744709	47uF,16V, Elect. <494>
C279,C280	354741009	10uF,16V, Elect.<494>
C3101,C3201	354784709	47uF,50V, Elect.
C3151,C3152	354744709	47uF,16V, Elect.
C3307,C3308	354741009	10uF,16V, Elect.
C923	3504213S	4700uF,35V, Elect.
C924	354761029S	1000uF,35V, Elect.
C933	354742229S	2200uF,16V, Elect.
C935,C944	354741009	10uF,16V, Elect.
C936,C937	354762219	220uF,35V, Elect.
	Resistors	
R921-R924	453532294	0.22ohm+/-5%, 1/2W, Metal oxide
R925	453530274	2.7ohm+/-5%, 1/2W, Metal oxide
R932	453530224	2.2ohm+/-5%, 1/2W, Metal oxide
R933	453530104	1ohm+/-5%, 1/2W, Metal oxide
R934	443522204	22ohm+/-5%, 1/2W, Metal oxide
R941	443520824	8.2ohm+/-5%, 1/2W, Metal oxide
	Jacks	
P261	25045333	NPJ-2PDBL185 <490>
P261	25045575 or	NPJ-4PDRW389 or
	25045303	NPJ-4PDBL162 <494.
	Sockets	
JL7001B	25050280	NSCT-3P108
JL911B	25050267	NSCT-3P95
JL912A	25051108	NSCT-4P895
JL921A	25051109	NSCT-5P896
JL931A,JL961A	25051107	NSCT-3P894
P101A	25052024 or	NSCT-15P1811 or
	25050955 or	NSCT-15P742 or
	25051281 or	NSCT-15P1070 or
	25051822 or	NSCT-15P1609 or
	25052211	NSCT-15P2108
P242A	25055705	NPLG-9P661
P303A,P305A	25055805	NPLG-16P761
P304A,P707A	25055804	NPLG-4P760
P306A,P706A	25055701	NPLG-5P657
P403	20022290820	NSAS-8P0854
P504B	2002E280630	NSAS-06P0904 <490>
P520	25052138	NSCT-7P2036
P704A	25055708	NPLG-12P664
P705A	25055712	NPLG-20P668
	Radiator	
Q934A	27160145	RAD-51
	Screw	
Q934B	82143010	3P+10FN(BC)

U9

HEAD PHONE JACK PC BOARD (NAETC-7045-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Jack	
P7003	25045514	YKB26-5005, Phones <494>
	Holder	
JL7003B	25051109	NSCT-5P896 <494>

U10

MASTER VOLUME PC BOARD (NAETC-7046-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Rotary encoder	
S7001	25065575	EC16B2425
	Sockets	
P7001A	25050931 or	NSCT-25P718 or
	25051329	NSCT-25P1118

U11

TONE CONTROL PC BOARD (NAETC-7047-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C391,C392	374721534	0.015uF+/-5%, 50V, Plastic
	Resistors	
R391,R392	5104356 or	N14RLC100KW20Z or
	5132435	N14RGLC100KW20Z, Bass/Treble
	Plug	
P391A	25055139	NPLG-9P123

U12

HOLDER PC BOARD (NAETC-7048-1A/1B/1C/1D/1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Holders	
P798,P799	27190540-1	HOLDER(CLAMP)

U13

DSP CIRCUIT PC BOARD (NADG-7049-1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q203	22240373	BA7625
Q701	22241338R2	AK4110VF
Q703	22240935R2	TC7WU04FU
Q704	22241716R9	CS492604-CL
Q705,Q706	22274574ER2TO	TC74VHC574FT
Q707	22241590R3 or	MX23C2000-90-001 or
	22241591R3 or	MX27C2000(TX-DS494) or
	22241592R3	MX29F002T(TX-DS494)
Q708	222740077R2TO	TC74HCT7007AF
Q709	22278033ENE	MPC29M33HF
Q711	22241546R2	TC7WT241FU
Q801	22241341R3	AK4526A-VQ
Q802	22240981R2	TC9162AF
Q803-Q809	22241383R2 or	NJM4565M-D or
	22240581R2	NJM4565M
	Transistors	
Q201,Q204	2214373R2 or	2SA1162-O or
	2214374R2 or	2SA1162-Y or
	2214375R2 or	2SA1162-GR or
	2216183R2 or	KTA1504-O or
	2216184R2 or	KTA1504-Y or
	2216185R2	KTA1504-GR

PRINTED CIRCUIT BOARD PARTS LIST-5

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<PA> : Australian model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
Q202,Q3690	2215410R2	RN1441
Q3691	2214540R2	RN2403
	Diodes	
D201,D202	223234R2 or	1SS352 or
	223269R2	1SS355
D801-D808	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L201	231237M022R2	NCH-1471
L701-L703	231237M022R2	NCH-1471
L704,L705	230921R2	BLM21B222SPT,Choke coil
L720-L722	231237M022R2	NCH-1471
L802,L803	231237M022R2	NCH-1471
	Oscillator	
X701	3010327 or	AT-4912.288MHz or
	3010320 or	AT-49 12.288MHz or
	3010335	AT-49H12.288MHz,Crystal
X702	3010324R2	CSTCV12.2MTJ0C4,Cera lock
	Capacitors	
C201-C203	354780229	2.2uF,50V, Elect.
C205,C206	354724719	470uF,6.3V, Elect.
C210,C701,C708	354721019	100uF,6.3V, Elect.
C3691	374721044	0.1uF+/-5%, 50V, Plastic
C740,C741	354721019	100uF,6.3V, Elect.
C788,C791	354724719	470uF,6.3V, Elect.
C807,C810	354721019	100uF,6.3V, Elect.
C811,C825	354741009	10uF,16V, Elect.
C816,C817	374721524	1500pF+/-5%, 50V, Plastic
C827,C829	354744709	47uF,16V, Elect.
C830,C831	354784709	47uF,50V, Elect.
C832	374721544	0.15upF+/-5%, 50V, Plastic
C833,C846,C847	374721524	1500pF+/-5%, 50V, Plastic
C834,C836	374726834	0.068uF+/-5%, 50V, Plastic
C835,C837	374726814	680pF+/-5%, 50V, Plastic
C840,C842	354744709	47uF,16V, Elect.
C844,C845	354784709	47uF,50V, Elect.
C848-C851	374726814	680pF+/-5%, 50V, Plastic
C854,C857,C868	354744709	47uF,16V, Elect.
C858,C859	354784709	47uF,50V, Elect.
C860,C861	374721524	1500pF+/-5%, 50V, Plastic
C862-C865	374726814	680pF+/-5%, 50V, Plastic
C871 ,C880,C882	354744709	47uF,16V, Elect.
C886	374721034	0.01uF+/-5%, 50V, Plastic
C894,C896	354744709	47uF,16V, Elect.
	Jacks	
P201	25045567	NPJ-1PDBL382
P202	25045315	NPJ-2PDYE172
P203	25045299	NPJ-3PDYE158
	Sockets	
P702B	25052029 or	NSCT-20P1816 or
	25050960 or	NSCT-20P747 or
	25051286 or	NSCT-20P1075 or
	25051827 or	NSCT-20P1614 or
	25052216	NSCT-20P2113
P704	25051237	NSCT-12P1027
P705	25051241	NSCT-20P1031
P706	25051230	NSCT-5P1020
P707	25051526	NSCT-4P1313
	Plug	
P701A	25055136	NPLG-6P120

U14

INPUT TERMINAL PC BOARD
(NAAF-7050-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240864	TC9273N-004
Q302,Q3181,Q3183	22241383R2	NJM4565M-D
Q3171	22241371	TC9482N
Q3281,Q3381,Q3581	22241383R2	NJM4565M-D
	Transistors	
Q3182,Q3184	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3185	2214350 or	RN2202 or
	2213510 or	DTA114ES or
	2215770	KRA102M
Q3282,Q3284	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3384,Q3484	2213632 or	RN1241-B or
	2213631	RN1241-A
Q3584,Q3684,Q3685	2213631 or	RN1241-A or
	2213632	RN1241-B
	Diodes	
D401,D402,D3182	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitors	
C315,C316	354744709	47uF,16V, Elect.
C3171,C3271	354781009	10uF,50V, Elect.
C3172,C3173	354744709	47uF,16V, Elect.
C3181,C3281	354782209	22uF,50V, Elect.
C3183,C3188	354744709	47uF,16V, Elect.
C3189,C3289	374721534	0.015uF+/-5%,50V, Plastic
C3190,C3196	354741009	10uF,16V, Elect.
C3194,C3195	354744709	47uF,16V, Elect.
C321,C322	354784709	47uF,50V, Elect.
C323,C324	354744709	47uF,16V, Elect.
C3283,C3288	354744709	47uF,16V, Elect.
C3290,C3394,C3395	354741009	10uF,16V, Elect.
C3371,C3381	354781009	10uF,50V, Elect.
C3388,C3488	354744709	47uF,16V, Elect.
C3471,C3481	354781009	10uF,50V, Elect.
C3571,C3581	354781009	10uF,50V, Elect.
C3588,C3688	354744709	47uF,16V, Elect.
C3594,C3595	354741009	10uF,16V, Elect.
C3671,C3681	354781009	10uF,50V, Elect.
C3687	374724734	0.047uF+/-5%,50V, Plastic
	Jacks	
P301,P302	25045300 or	NPJ-6PDBL159 or
	25045571	NPJ-6PDRW386
P7202	25045645	NPJ-2PDO450 <494>
	Sockets	
P303,P305	25051527	NSCT-16P1314
P304	25051526	NSCT-4P1313
P306	25051230	NSCT-5P1020
P391	2009990579UL	NSAS-16P0788
P601	2009990652UL	NSAS-10P0907

PRINTED CIRCUIT BOARD PARTS LIST-6

NOTE: <DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<PA> : Australian model only
<WT> : World wide model only
<WR> : Chinese model only
<494>: TX-DS494 only
<490>: HT-R490 only

NOTE:THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH P ART NUMBER SPECIFIED.

U15

PRIMARY CIRCUIT PC BOARD
(NAPS-7051-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q951	2213640 or	DTC123JS or
	2215830	KRC105M
	Diodes	
D951	22380260 or	RL1N4003 or
	22380032 or	1SR139-100 or
	22380035	GP104003E <PP,PA,WT,GT,WR>
D952	22380260 or	RL1N4003 or
	22380032 or	1SR139-100 or
	22380035	GP104003E
D953,D954	22380260 or	RL1N4003 or
	22380032 or	1SR139-100 or
	22380035	GP104003E <PP,PA,WT,GT,WR>
D955	223234R2 or	1SS352 or
	223269R2	1SS355
	Transformer	
T902	2301381	⚠ NPT-1358D <DD,490>
	2301382	⚠ NPT-1358P <PP,PA>
	2301383	⚠ NPT-1358DG <WT,GT,WR>
	Capacitors	
C902	3500196S	⚠ RE275V-103M
C952	354753319	330uF,25V, Elect.
	Resistors	
R901	431533355	⚠ RC1/2GFKUL-3.3M <DD,490>
R951	453530824	8.2ohm+/-5%, 1/2W, Metal oxide <PP PA WT GT WR>
	Relay	
RL901	25065561 or	⚠ NRL-1P5A-DC12-127 or
	25065515 or	⚠ NRL-1P5A-DC12-096 or
	25065526	⚠ NRL-1P5A-DC12-102
	Switch	
S902	25065437	⚠ NSS-22157P <WT,WR>
	Sockets	
JL961B	25050267	NSCT-3P95
P903	25051125	⚠ NSCT-4P912 <PP,WT,GT>
	25051126	⚠ NSCT-4P913 <DD,490>
	25052115	⚠ NSCT-2P2013 <PA>
	25052381	⚠ NSCT-2P2278 <WR>
	Plugs	
P901A	25056028 or	⚠ NPLG-2P0978 or
	25055675	⚠ NPLG-2P631
	Fuse holders	
F911B,F911A	25052133 or	⚠ NSCT-1P2031 or
	25052609	⚠ NSCT-1P2506
F922A,F922B	25052133 or	⚠ NSCT-1P2031 or
	25052609	⚠ NSCT-1P2506 <DD,WT,490,WR>

U16

POWER SWITCH PC BOARD
(NASW-7052-1B/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C901	3500196S	⚠ RE275V-103M
	Switch	
S901	25035550	⚠ NPS-111-L512P, Power

U19

REGULATOR CIRCUIT PC BOARD
(NAPS-7055-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
C926-C928,C942	394541007	10uF,16V, Elect.
JL921B	25050269	NSCT-5P97
JL931B	25050267	NSCT-3P95
R926	452630564F	5.6ohm+/-5%, 1W, Metal oxide
R929	441623304F	33ohm+/-5%, 1W, Metal oxide
R938	453530104	1ohm+/-5%, 1W, Metal oxide

U20

VIDEO TERMINAL PC BOARD
(NAETC-7056-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q401,Q402	22240373	BA7625
	Transistor	
Q403,Q404	2214375R2 or	2SA1162-GR or
	2216185R2	KTA1504-GR
Q405,Q406	2215410R2	RN1441
	Capacitors	
C401,C411,C412	354780229	2.2uF,50V, Elect.
C402	354724719	470uF,6.3V, Elect.
C421,C422	354780229	2.2uF,50V, Elect.
C431,C432	354780229	2.2uF,50V, Elect. <494>
C443,C444	354721019	100uF,6.3V, Elect.
	Resistots	
R409,R410	443521014	100ohm+/-5%, 1/2W, Metal oxide
	Sockets	
P401	25051568	NSCT-12P1355 <490>
P401,P402	25051748	NSCT-8P1535 <494>
P403A	25055442	NPLG-4P424

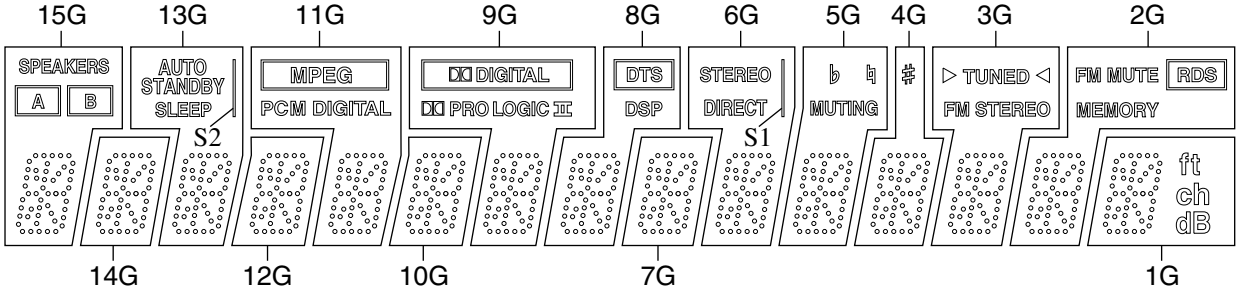
U21

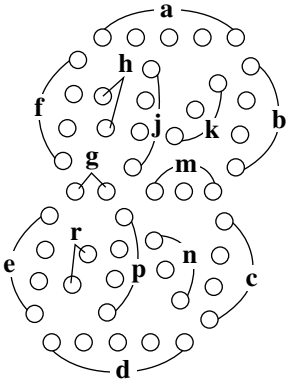
MULTI CHANNEL INPUT TERMINAL PC BOARD
(NAAF-7057-1A/1B/1C/1D/1F/1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q341,Q343	22240293	NJM4558L-D
Q7201	222740046R2O	TC74HCU04F
	Coils	
L7201,L7202	231237K470R2	NCH-1479
L7203	231237M022R2	NCH-1471 <494>
L7204	231237M022R2	NCH-1471
U7201	24120095	TORX179
	Capacitors	
C7203,C7205	354721019	100uF,6.3V, Elect.
C347,C348	354741009	10uF,16V, Elect.
	Sockets	
P242B	25051234	NSCT-9P1024
P341	25045649 or	NPJ-6PDBRW453 or
	25045572	NPJ-6PDBRW387
P701	2009990577UL	NSAS-12P0786
P7202	25045473	NPJ-1PDBL291 <490>
F933A,F933B	25052133 or	⚠ NSCT-1P2031 or
	25052609	⚠ NSCT-1P2506 <PP>

FL TUBE VIEW

Q7004: 15-BT-80GNK





[15G-1G]

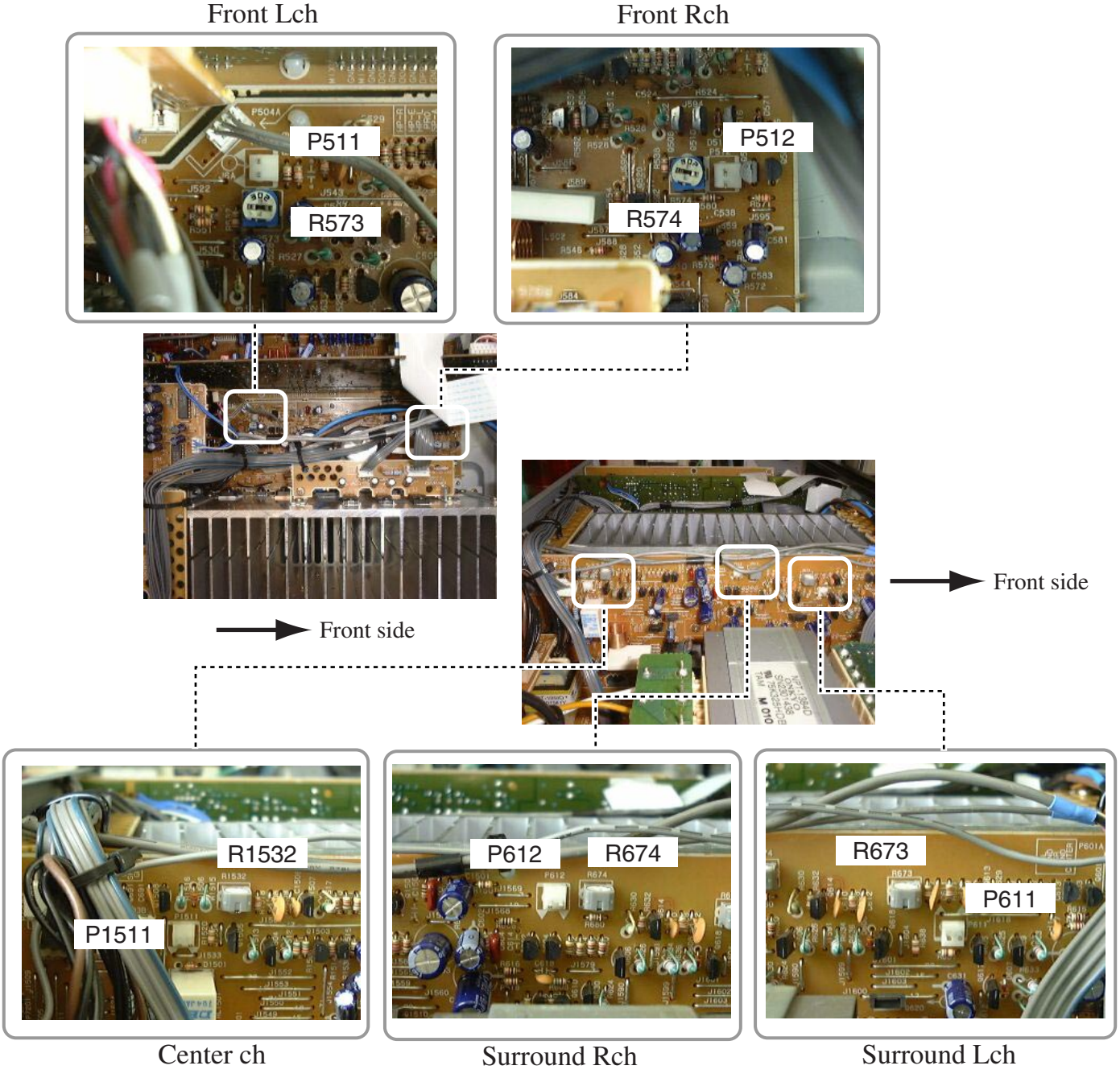
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17
1G	dB	ch	ft	a	h	j	k	b	f	m	g	c	e	r	p	n	d
2G	RDS	FM MUTE	MEMORY	a	h	j	k	b	f	m	g	c	e	r	p	n	d
3G	TUNED	▷	◁ FM STEREO	a	h	j	k	b	f	m	g	c	e	r	p	n	d
4G	#	——	——	a	h	j	k	b	f	m	g	c	e	r	p	n	d
5G	♮	♭	MUTING	a	h	j	k	b	f	m	g	c	e	r	p	n	d
6G	STEREO	DIRECT	S1	a	h	j	k	b	f	m	g	c	e	r	p	n	d
7G	——	——	——	a	h	j	k	b	f	m	g	c	e	r	p	n	d
8G	DTS	DTS	DSP	a	h	j	k	b	f	m	g	c	e	r	p	n	d
9G	DIGITAL	DIGITAL	PRO LOGIC II	a	h	j	k	b	f	m	g	c	e	r	p	n	d
10G	——	——	——	a	h	j	k	b	f	m	g	c	e	r	p	n	d
11G	MPEG	MPEG	PCM DIGITAL	a	h	j	k	b	f	m	g	c	e	r	p	n	d
12G	——	——	——	a	h	j	k	b	f	m	g	c	e	r	p	n	d
13G	AUTO STANDBY	SLEEP	S2	a	h	j	k	b	f	m	g	c	e	r	p	n	d
14G	——	——	——	a	h	j	k	b	f	m	g	c	e	r	p	n	d
15G	SPEAKERS	A	B	a	h	j	k	b	f	m	g	c	e	r	p	n	d

ADJUSTMENT PROCEDURES

IDLING CURRENT ADJUSTMENT

1. Before Idling adjustment, turn the trimming resistors R573, R574, R673, R674 and R1532 to counter clockwise.
2. Connect the DC voltmeter to sockets P511,P512, P611, P612 and P1511.
3. After turn POWER to ON, adjust the trimming resistors R573, R574, R673, R674 and R1532 so that the reading of voltmeter becomes 2.4 to 2.6 mV.
4. After adjustment, attach the top cover.
5. Confirm the voltage of above points after five minutes.
6. When 3.1 mV to 6.4 mV : Readjust the trimming resistors above so that the voltage becomes 6.5 to 6.7 mV.
   When 6.5 mV to 7.5 mV : It is not necessary to adjust.
   When 7.6 mV to 13 mV : Readjust the trimming resistors above so that the voltage becomes 7.5 to 7.7 mV.

[Note] No load and No signal



CONFIRMATION

CONFIRMATION OF PROTECTION CIRCUIT

1. Confirmation of speaker relay

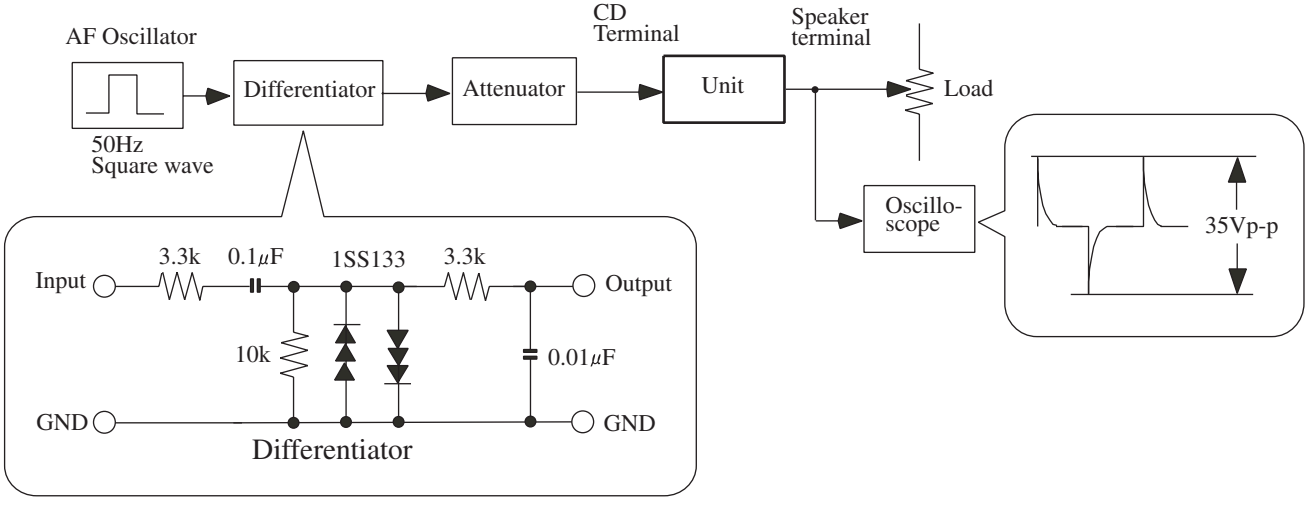
Confirm that the speaker relay turns ON approximate 5 seconds after the power switch is turned ON.
Confirm that the speaker relay turns OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit

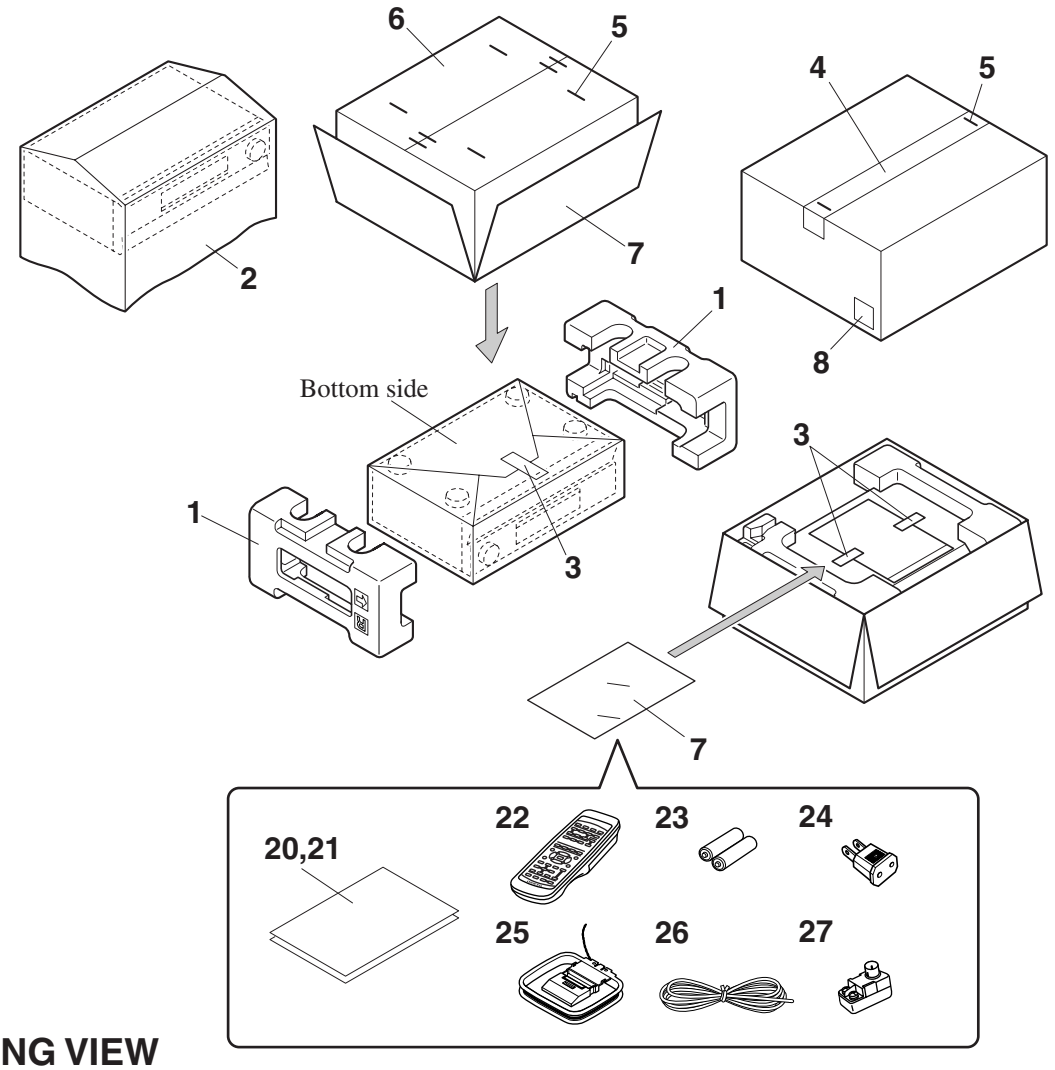
1. Press and hold down CD button, then press SPEAKERS A and SPEAKERS B buttons at the same time.
2. Press DVD button, while "TEST-1_" on the FLtube is displayed.
   During "TEST-1-00" on the FL tube is displayed.
3. Press SPEAKERS A button button
   During "TEST-1-01" on the FL tube is displayed.
4. Apply DC 1.5～3V to MULTI CHANNEL INPUT terminals with no load.
   Confirm that the speaker relay turns OFF.
5. Apply DC -1.5～3V to MULTI CHANNEL INPUT terminals with no load.
   Confirm that the speaker relay turns OFF.

3. Confirmation of Current detection circuit

1. Press and hold down CD button, then press SPEAKERS A and SPEAKERS B buttons at the same time.
2. Press DVD button, while "TEST-1_" on the FLtube is displayed.
   During "TEST-1-00" on the FL tube is displayed.
3. Press SPEAKERS A button button
   During "TEST-1-01" on the FL tube is displayed.
4. Connect Differentiator below and apply the 50Hz square signal to the MULTI CHANNEL INPUT terminals.
5. Adjust the attenuator or Volume so that the output level becomes 35V p-p.
6. Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.
7. Confirm that the speaker relay turns OFF when a 1.0 ohm load is connected.



PACKING VIEW



PACKING VIEW

REF. NO.	PART NO.	DESCRIPTION
1	29091972B	Pad AS
2	29100034-1A	Polybag, 585 x 650
3	261504	Paper tape, W30
4	29110098	PP Tape
5	282301	Staple
6	29100097-1A	Polybag, 350 x 250
7	29053700A	Carton box <DD>
	29053701A	Carton box <S> <PP>
	29053702A	Carton box <B> <WT, WR>
	29053703A	Carton box <B> <PP>
	29053704A	Carton box <G> <PA,WT,WR>
	29053706A	Carton box <490>
8	29362794	Label, UPC <DD>
	29362795	Label EAN <B> <PP, WT, WR, PA>
	29362796	Label EAN <S> <PP>
	29362797	Label EAN <G> <PA, WR, WT>
	29362808	Label EAN <490>
20	29343037	Instruction manual E <DD,PP,WT,WR,GT,PA>
	29343046	Instruction manual E <490>
	29343038	Instruction manual DIG-E <DD>
	29343047	Instruction manual DIG-E <490>
	29343039	Instruction manual U3GDSw <PP>
	29343050	Instruction manual U2CTCS <WT, WR, GT>
	29343040	Instruction manual U3FSI <PP>

REF. NO.	PART NO.	DESCRIPTION
21	29365090	Warranty card <DD,490>
	29365042	Warranty card <PA>
22	24140444	RC-444M, Remote controller <DD>
	24140443	RC-443M, Remote controller <PP, WT, WR, PA>
	24140446	RC-446M, Remote controller <490>
23	3010054	UM-3, Battery
24	25055018 or	
	25056005	CV plug, CV-K-1 <WT>
25	232140	AM Loop antenna, NMA-3057
26	292115	FM antenna <PP,WR,WT,PA,GT>
	292142	FM antenna <DD,490>
27	25065462	FM Antenna adapter YAE21-0237 <WT,WR,PA>

[NOTE]

<DD> : 120V model only
<DT> : Asian model only for 120V
<GT> : Asian model only for 230V
<PP> : European model only
<WT> : World wide model only
<WR> : Chinese model only
<494> : TX-DS494 only
<490> : HT-R490 only
<B> : Black model only
<S> : Silver model only
<G> : Golden model only

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